

Proposed Amended Rule 1469 for WG#13 (Track Changes) (Version July 13, 2018)

(Adopted October 9, 1998)(Amended May 2, 2003)
(Amended December 5, 2008)(To Be Distributed July 13, 2018)

**PROPOSED HEXAVALENT CHROMIUM EMISSIONS FROM CHROMIUM
AMENDED ELECTROPLATING AND CHROMIC ACID ANODIZING
RULE 1469. **OPERATIONS****

(a) Purpose

The purpose of this rule is to reduce hexavalent chromium emissions from facilities that perform chromium electroplating or chromic acid anodizing operations and other activities that are generally associated with chromium electroplating and chromic acid anodizing operations.

(ab) Applicability

- (1)** This rule shall apply to the owner or operator of any facility performing chromium electroplating or chromic acid anodizing. ~~Compliance with this rule shall be in addition to other applicable rules, such as Rule 1401—New Source Review of Toxic Air Contaminants and Rule 1401.1—Requirements for New and Relocated Facilities Near Schools.~~
- (2)** ~~Any person who sells, supplies, offers for sale, uses, or manufactures for sale in the District a chromium electroplating or chromic acid anodizing kit.~~

(bc) Definitions

For the purposes of this rule, the following definitions shall apply:

- (1)** ADD-ON AIR POLLUTION CONTROL DEVICE means equipment installed in the ventilation system of ~~chromium electroplating and anodizing tanks~~ any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) for the purposes of collecting and containing chromium emissions from the tank(s).
- (2)** ADD-ON NON-VENTILATED AIR POLLUTION CONTROL DEVICE means equipment installed on any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s) for the purposes of collecting, containing, or eliminating chromium emissions that is hermetically sealed and does not utilize a ventilation system.
- (23)** AIR POLLUTION CONTROL TECHNIQUE means any method, such as an add-on air pollution control device, add-on non-ventilated air pollution control device, mechanical fume suppressant or a chemical fume

- suppressant, that is used to reduce chromium emissions from one or more Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s)~~chromium electroplating and chromic acid anodizing tanks.~~
- (34) AMPERE-HOURS means the integral of electrical current applied to an electroplating tank (amperes) over a period of time (hours).
- (45) ANNUAL PERMITTED AMPERE-HOURS means the maximum allowable chromium electroplating or anodizing rectifier production in ampere-hours, on an annual basis as specified in the SCAQMD Permit to Operate, or SCAQMD Permit to Construct, or Compliance Plan for the facility.
- (6) APPROVED CLEANING METHOD means cleaning using a wet mop, damp cloth, low pressure spray nozzle, HEPA vacuum, or other method as approved by the Executive Officer.
- (7) ASSOCIATED PROCESS TANK means any tank in the process line of a Tier I, Tier II, or Tier III Hexavalent Chromium Tank.
- (5) ~~AREA SOURCE means any stationary source of hazardous air pollutants that is not a major source as defined in this rule.~~
- (68) BASE MATERIAL means the metal, metal alloy, or plastic that comprises the workpiece.
- (9) BARRIER means a physical divider that can be fixed or portable such as a wall, welding screen, plastic strip curtains, etc.
- (710) BATH COMPONENT means the trade or brand name of each component in trivalent chromium electroplating baths, including the chemical name of the wetting agent contained in that component.
- (8) ~~BREAKDOWN means an unforeseeable impairment of an air pollution control device or related operating equipment which causes a violation of any emission limitation or restriction prescribed by this rule or by State law and which: is not the result of neglect or disregard of any air pollution control law, rule, or regulation; is not intentional or the result of negligence, or improper maintenance; is not a recurrent breakdown of the same equipment; and, does not constitute a nuisance as defined in the State of California Health and Safety Code, Section 41700, with the burden of proving the criteria of this section placed upon the person seeking to come under the provisions of this law.~~
- (11) BUILDING ENCLOSURE means a permanent building or physical structure, or portion of a building, enclosed with a floor, walls, and a roof

to prevent exposure to the elements, (e.g., precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a building enclosure that is completely enclosed with a floor, walls, and a roof would also meet this definition.

~~(9)~~12) CHEMICAL FUME SUPPRESSANT means any chemical agent that reduces or suppresses fumes or mists at the surface of an electroplating or anodizing bath; another term for fume suppressant is mist suppressant.

~~(40)~~1) CHROMIC ACID means the common name for chromium anhydride (CrO_3).

~~(44)~~1) CHROMIC ACID ANODIZING means the electrolytic process by which an oxide layer is produced on the surface of a base material for functional purposes (e.g., corrosion resistance or electrical insulation) using a chromic acid solution. In chromic acid anodizing, the part to be anodized acts as the anode in the electrical circuit, and the chromic acid solution, with a concentration typically ranging from 50 to 100 grams per liter (g/L), serves as the electrolyte.

~~(42)~~1) CHROMIUM ELECTROPLATING OR CHROMIC ACID ANODIZING TANK means the receptacle or container in which hard or decorative chromium electroplating or chromic acid anodizing occurs.

~~(43)~~1) COMPOSITE MESH-PAD SYSTEM (CMP) means an add-on air pollution control device typically consisting of several mesh-pad stages. The purpose of the first stage is to remove large particles. Smaller particles are removed in the second stage, which consists of the composite mesh pad. A final stage may remove any re-entrained particles not collected by the composite mesh pad.

~~(44)~~1) DECORATIVE CHROMIUM ELECTROPLATING means the process by which a thin layer of chromium (typically 0.003 to 2.5 microns) is electrodeposited on a base metal, plastic, or undercoating to provide a bright surface with wear and tarnish resistance. In this process, the part(s) serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Typical current density applied during this process ranges from 540 to 2,400 Amperes per square meter (A/m^2) for total electroplating times ranging between 0.5 to 5 minutes.

~~(45)~~1) DRAGOUT means fluid containing hexavalent chromium that drips ~~off~~ from ~~parts being~~ electroplated or anodized parts, or from equipment used to remove electroplated or anodized parts from a tank.

- (19) EARLY EDUCATION CENTER means any public or private property, used for purposes of education as defined as an Early Learning and Developmental Program by the U.S. Department of Education, but does not include any property in which education is primarily conducted in private homes. Early education center includes any building or structure, playground, athletic field, or other areas of the early education center property.
- (162) ELECTROPLATING OR ANODIZING BATH means the electrolytic solution used as the conducting medium in which the flow of current is accompanied by movement of metal ions for the purpose of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.
- (172) EMISSION LIMITATION means, ~~for the purposes of this rule,~~ the concentration of total chromium allowed to be emitted expressed in milligrams per dry standard cubic meter (mg/dscm), or the allowable surface tension expressed in dynes per centimeter (dynes/cm) for decorative chromium electroplating and chromic acid anodizing tanks; and the milligrams of hexavalent chromium per ampere-hour (mg/amp-hr) of electrical current applied to the electroplating tank for hard or decorative chromium electroplating tanks or chromic acid anodizing tanks, or mass emission rate for a Tier II or Tier III hexavalent chromium tank.
- (182) ENCLOSED STORAGE AREA is any space or structure used to contain material that prevents its contents from being emitted into the atmosphere.
- (23) ENCLOSURE OPENING is any permanent, designed opening in a building enclosure or permanent total enclosure, such as passages, doorways, bay doors, vents, roof openings, and windows. Stacks, ducts, and openings to accommodate stacks and ducts are not considered enclosure openings.
- (192) EXISTING FACILITY means a facility that is in operation before October 24, 2007.
- (202) FACILITY means ~~at the major or area~~ source at which chromium electroplating or chromic acid anodizing is performed, ~~and/or any source or group of sources or other air contaminant-emitting activities which and~~ are located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by

persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

- (212) FIBER-BED MIST ELIMINATOR means an add-on air pollution control
6) device that removes contaminants from a gas stream through the mechanisms of inertial impaction and Brownian diffusion. This device consists of one or more fiber beds and is typically installed downstream of another control device, which serves to prevent plugging, ~~and consists of one or more fiber beds~~. Each bed consists of a hollow cylinder formed from two concentric screens; the fiber between the screens may be fabricated from glass, ceramic, plastic, or metal.
- (222) FOAM BLANKET means the type of chemical fume suppressant that
7) generates a layer of foam across the surface of a solution when current is applied to that solution.
- (232) FRESH WATER means water, such as tap water, that has not been
8) previously used in a process operation or, if the water has been recycled from a process operation, it has been treated and meets the effluent guidelines for chromium wastewater.
- (242) FUGITIVE ~~EMISSIONS~~DUST, ~~for the purpose of this rule~~ means any
9) emissions generated from the operations at a facility, including solid particulate matter, gas, or mist, potentially containing hexavalent chromium that becomes airborne by natural or man-made activities; excluding particulate matter emitted from an exhaust stack.
- (253) HARD CHROMIUM ELECTROPLATING or INDUSTRIAL
0) CHROMIUM ELECTROPLATING means a process by which a thick layer of chromium (typically greater than 1.0 microns) is electrodeposited on a base material to provide a surface with functional properties such as wear resistance, a low coefficient of friction, hardness, and corrosion resistance. In this process, the part serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Hard chromium

electroplating process is performed at current densities typically ranging from 1,600 to 6,500 A/m² for total electroplating times ranging from 20 minutes to 36 hours depending upon the desired plate thickness.

(263) HEXAVALENT CHROMIUM means the form of chromium in a valence
1) state of +6.

(273) HIGH EFFICIENCY PARTICULATE ARRESTORS (HEPA) means
2) filter(s) ~~rated that are individually dioctyl phthalate tested and certified by the manufacturer to have a control efficiency of not less than~~ 99.97 percent ~~or more efficient in collecting particle sizes on~~ 0.3 microns ~~particles or larger.~~

(33) HEPA VACUUM means a vacuum that is both designed for the use of and
fitted with a HEPA filter.

(283) LEAK means the release of chromium emissions from any opening in the
4) emission collection system prior to exiting the emission control device.

(35) LOW PRESSURE SPRAY NOZZLE means a water spray nozzle capable
of regulating water pressure to 35 pounds per square inch or less.

(293) MAJOR SOURCE means any stationary source or group of stationary
6) sources located within a contiguous area and under common control that emits, or has the potential to emit, considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

(303) MAXIMUM CUMULATIVE POTENTIAL RECTIFIER CAPACITY
7) means the summation of the total installed rectifier capacity associated with the hard chromium electroplating tanks at a facility, expressed in amperes, multiplied by the maximum potential operating schedule of 8,400 hours per year and 0.7, which assumes that electrodes are energized 70 percent of the total operating time. The maximum potential operating schedule is based on operating 24 hours per day, 7 days per week, 50 weeks per year.

(343) MECHANICAL FUME SUPPRESSANT means any physical device,
8) including but not limited to polyballs that reduces fumes or mist at the surfaces of an electroplating or anodizing bath by direct contact with the surface of the bath. ~~Polyballs are the most commonly used mechanical fume suppressant.~~

(39) METAL REMOVAL FLUID means a fluid used at the tool and workpiece
interface to facilitate the removal of metal from the part, cool the part and

tool, extend the life of the tool, and to flush away metal chips and debris, but does not include minimum quantity lubrication fluids used to coat the tool work piece interface with a thin film of lubricant and minimize heat buildup through friction reduction. Minimum quantity lubrication fluids are applied by pre-coating the tool in the lubricant, or by direct application at the tool work piece interface with a fine mist.

(324) MODIFICATION means either:

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(A) ~~any~~Any physical change in, change in method of operation of, or addition to an existing permit unit subject to this rule that requires an application for a SCAQMD ~~p~~Permit to eConstruct and/or Operate and results in an increase in hexavalent chromium emissions. Routine maintenance and/or repair shall not be considered a physical change. A change in the method of operation of equipment, unless previously limited by an enforceable permit condition, shall not include:

(i) ~~an~~An increase in the production rate or annual ampere-hours, unless such increases will cause the maximum design capacity of the equipment to be exceeded, or will cause a facility to be subject to a different requirement in Table 21 – Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks of paragraph (ch)(112); or

(ii) ~~an~~An increase in the hours of operation; or

(iii) ~~a~~A change in ownership of a source;

(B) ~~the~~The addition of any new chromium electroplating or anodizing tank at an existing facility which increases hexavalent chromium emissions; or

(C) ~~the~~The fixed capital cost of the replacement of components exceeding 50 percent of the fixed capital cost that would be required to construct a comparable new source.

(334) MODIFIED FACILITY means any existing facility which has undergone
1) a modification on or after October 24, 2007.

(344) NEW FACILITY means any facility that begins initial operations on or
2) after October 24, 2007. “New Facility” does not include the installation

of a new chromium electroplating or anodizing tank at an existing facility or the modification of an existing facility.

(354) OPERATING PARAMETER VALUE means a minimum or maximum value established for a monitoring the proper operation of an air pollution control technique, device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator is in continual compliance with the applicable emission limitation or standard.

(364) PACKED-BED SCRUBBER means an add-on air pollution control device consisting of a single or double packed-bed that contains packing media on which the chromic acid droplets impinge. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

(45) PERFLUOROOCTANE SULFONIC ACID (PFOS) BASED FUME SUPPRESSANT means a fume suppressant that contains 1 percent or greater PFOS (CAS No. 1763-23-1) by weight.

(46) PERMANENT TOTAL ENCLOSURE means a permanent building or containment structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off) that has limited openings to allow access for people and vehicles, that is free of breaks or deterioration that could cause or result in fugitive emissions, and has been evaluated to meet the design requirements set forth in U.S. EPA Method 204, or other design approved by the Executive Officer.

(374) RESPONSIBLE OFFICIAL means one of the following:

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(A) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or

- (ii) The delegation of authority to such representative is approved in advance by the U.-S. EPA Administrator.
- (B) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- (C) For a municipality, state, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the U.S. Environmental Protection Agency [U.S. EPA]).
- (D) For sources (as defined in this rule) applying for or subject to a Title V permit: “responsible official” shall have the same meaning as defined in ~~District~~ SCAQMD’s Regulation XXX.
- (384) 8) SCHOOL means any public or private school, including juvenile detention facilities with classrooms, used for purposes of the education of more than 12 children at the school, including in kindergarten and grades 1 through 12, inclusive, but does not include any private school in which education is primarily conducted in private homes. The term includes any building or structure, playground, athletic field, or other area of school property, but does not include unimproved school property.
- (394) 9) SCHOOL UNDER CONSTRUCTION means any property that meets any of the following conditions:
 - (A) ~~construction~~ Construction of a school has commenced; or
 - (B) ~~a-A CEQA~~ California Environmental Quality Act Notice for the construction of a school has been issued; or
 - (C) ~~a-A~~ a school has been identified in an approved local government specific plan.
- (405) 0) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

- (415) SOURCE means any chromium electroplating or chromic acid anodizing
1) operation and any equipment or materials associated with the selected associated air pollution control technique.
- (425) STALAGMOMETER means a device used to measure the surface tension
2) of a solution by determining the mass of a drop of liquid by weighing a known number of drops, or by counting the number of drops obtained from the weight of each drop, in a given volume of liquid.
- (435) SUBSTANTIAL USE of a SCAQMD Permit to Construct means one
3) or more of the following:
- (A) ~~the~~ The equipment that constitutes the source has been purchased or acquired;
 - (B) ~~construction~~ Construction activities, other than grading or installation of utilities or foundations, have begun and are continuing; or
 - (C) ~~a~~ A contract to complete construction of the source within one year has been entered into.
- (445) SURFACE TENSION means the property, due to molecular forces, that
4) exists in the surface film of all liquids and tends to prevent liquid from spreading.
- (455) TANK OPERATION means the time in which current and/or voltage is
5) being applied to a chromium electroplating tank or a chromic acid anodizing tank.
- (56) TANK PROCESS AREA means the area in the facility within 15 feet of any Tier I, Tier II, or Tier III Hexavalent Chromium Tank(s), or to the nearest wall of a building enclosure or permanent total enclosure, whichever is closer.
- (465) TENSIO METER means a device used to measure the surface tension of a
7) solution by measuring the force necessary to pull a filament, plate, or ring, or other District SCAQMD approved object from the surface of a liquid.
- (58) TIER I HEXA VALENT CHROMIUM TANK means a tank permitted as containing a hexavalent chromium concentration of 1,000 parts per million (ppm) or greater and is not a Tier II or Tier III Hexavalent Chromium Tank.
- (59) TIER II HEXA VALENT CHROMIUM TANK means a tank that is operated or permitted to operate by the SCAQMD within the range of

temperatures and corresponding hexavalent chromium concentrations specified in Appendix 10 and is not a Tier III Hexavalent Chromium Tank.

(60) TIER III HEXAVALENT CHROMIUM TANK means a tank that meets any of the following:

(A) Is operated or permitted to operate by the SCAQMD within the range of temperatures and corresponding hexavalent chromium concentrations specified in Appendix 10; or

(B) Contains a hexavalent chromium concentration greater than 1,000 ppm, and uses air sparging as an agitation method or is electrolytic; or

(C) Is a hexavalent chromium electroplating or chromic acid anodizing tank.

(476) TRIVALENT CHROMIUM means the form of chromium in a valence state of +3.

(486) TRIVALENT CHROMIUM PROCESS means the process used for electrodeposition of a thin layer of chromium onto a base material using a trivalent chromium solution instead of a chromic acid solution.

(496) WEEKLY means at least once every seven calendar days.

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(506) WETTING AGENT means the type of chemical fume suppressant that reduces the surface tension of a liquid.

(ed) Requirements

The owner or operator of a facility shall:

(1) ~~The owner or operator of a chromium electroplating tank, chromic acid anodizing tank, or group of such tanks, shall equip~~ Equip each rectified tank with a continuous recording, non-resettable, ampere-hour meter that operates on the electrical power lines connected to the tank or group of tanks. A separate meter shall be hard wired for each ~~rectifier tank~~ ;

(2) ~~The owner or operator of a source with any electroplating or anodizing tank using a wetting agent chemical fume suppressant shall use~~ Only use wetting agent chemical fume suppressants certified pursuant to subdivision (f) in hexavalent chromium electroplating or chromic acid anodizing tank(s);:-

(3) ~~No hexavalent chromium electroplating or chromic acid anodizing tank shall be~~ Not air sparged a hexavalent chromium electroplating or chromic

- acid anodizing tank when electroplating or anodizing is not occurring, or while chromic acid is being added;
- (4) Operate any Tier I, Tier II, or Tier III Hexavalent Chromium Tank within a building enclosure beginning [90 days After Date of Rule Adoption]; and
 - (5) Operate any Tier II or Tier III Hexavalent Chromium Tank within a building enclosure that meets the requirements of subdivision (e).
- (e) Requirements for Building Enclosures for Tier II and Tier III Hexavalent Chromium Tanks
Beginning [180 Days After Date of Rule Adoption], the owner or operator of a facility shall only operate Tier II or Tier III Hexavalent Chromium Tank(s) within a building enclosure that meets the following requirements:
- (1) The combined area of all enclosure openings shall not exceed 3.5% of the building enclosure envelope, which is calculated as the total surface area of the building enclosure's exterior walls, floor, and horizontal projection of the roof on the ground. Information on calculations for the building enclosure envelope, including locations and dimensions of openings that are counted towards the applicable building envelope allowance, shall be provided in the compliance status reports required in paragraphs (p)(2) and (p)(3). Openings that close or use one or more of the following methods for the enclosure opening shall not be counted toward the combined area of all enclosure openings:
 - (A) Door that automatically closes; or
 - (B) Overlapping plastic strip curtain; or
 - (C) Vestibule; or
 - (D) Airlock system; or
 - (E) Alternative method to minimize the release of fugitive emissions from the building enclosure that the owner or operator of a facility can demonstrate to the Executive Officer is an equivalent or more effective method(s) to minimize the movement of air within the building enclosure.
 - (2) Ensure that any building enclosure openings that open to the exterior and are on opposite ends of the building enclosure where air movement can pass through are not simultaneously open except during the passage of vehicles, equipment or people, not to exceed two hours per operating day, by using one or more of the following:

- (A) A method specified in subparagraphs (e)(1)(A) through (e)(1)(E) for the enclosure opening(s) on one of the opposite ends of the building enclosure; or
 - (B) Utilize a barrier, such as large piece of equipment that restricts air movement from passing through the building enclosure.
- (3) Except for the movement of vehicles, equipment or people, close any building enclosure opening or use any of the methods listed in subparagraphs (e)(1)(A) through (e)(1)(E), that directly faces and opens towards the nearest:
 - (A) Sensitive receptor that is located within 100 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; and
 - (B) School or early education center that is located within 1,000 feet, as measured from the property line of the school or early education center to the building enclosure opening.
- (4) Close all enclosure openings in the roof that are located within 15 feet from the edge of any Tier II or Tier III Hexavalent Chromium Tank except enclosure openings in the roof that:
 - (A) Allow access for equipment or parts; or
 - (B) Provide intake or circulation air for a building enclosure and does not create air velocities that impact the collection efficiency of a ventilation system for an add-on air pollution control device; or
 - (C) Are equipped with a HEPA filter or other air pollution control device.
- (5) Repair any breach in a building enclosure located within 15 feet from the edge of any Tier II or Tier III Hexavalent Chromium Tank within 72 hours of discovery. The owner or operator of a facility may request an extension by calling 1-800-CUT-SMOG. The Executive Officer may approve a request for an extension beyond the 72-hour limit if the request is submitted before the 72-hour time limit has expired and the owner or operator of a facility provides information that substantiates:
 - (A) The repair will take longer than 72 hours, or the equipment, parts, or materials needed for the repair cannot be obtained within 72 hours; and
 - (B) Temporary measures are implemented that ensure no fugitive emissions result from a breach.

- (6) The owner or operator of a facility shall notify the Executive Officer if any of the requirements specified in paragraphs (e)(1) through (e)(4) cannot be complied with due to conflicting requirements set forth by the federal Occupational Safety and Health Administration (OSHA), California Division of Occupational Safety and Health (CAL-OSHA), or other municipal codes or agency requirements directly related to worker safety. A Building Enclosure Compliance Plan shall be submitted to the Executive Officer for review and approval no later than [30 days after Date of Rule Adoption] for facilities existing before [Date of Rule Adoption], and prior to initial start-up for all other facilities. The Building Enclosure Compliance Plan shall be subject to plan fees specified in Rule 306 and include:
- (A) An explanation as to why the provision(s) specified in paragraphs (e)(1) through (e)(4) is in conflict with the requirements set forth by OSHA or CAL-OSHA, or other municipal codes or agency requirements directly related to worker safety; and
- (B) Alternative compliance measure(s) that ~~would~~will be implemented to minimize the release of fugitive emissions to the outside of the building enclosure.
- (7) The Executive Officer shall notify the owner or operator of a facility in writing whether the Building Enclosure Compliance Plan is approved or disapproved.
- (A) If the Building Enclosure Compliance Plan is disapproved, the owner or operator of a facility shall resubmit the Building Enclosure Compliance Plan within 30 calendar days after notification of disapproval of the Building Enclosure Compliance Plan. The resubmitted Building Enclosure Compliance Plan shall include any information to address deficiencies identified in the disapproval letter.
- (B) The Executive Officer will either approve the revised and resubmitted Building Enclosure Compliance Plan or modify the Building Enclosure Compliance Plan and approve it as modified. The owner or operator may appeal the Building Enclosure Compliance Plan modified by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.

- (8) The owner or operator of a facility shall implement the Building Enclosure Compliance Plan specified in paragraphs (e)(6) and (e)(7), as approved by the Executive Officer, no later than 90 days after receiving notification of approval for facilities existing before [Date of Rule Adoption], and prior to initial start-up for all other facilities. Compliance with the approved alternative compliance measures shall constitute compliance with the applicable provisions of paragraphs (e)(1) through (e)(4).
- (9) The owner or operator of a facility that has applied for an SCAQMD permit to install or is required to install an add-on air pollution control device to control either a Tier II or Tier III Hexavalent Chromium Tank(s) shall be exempt from paragraph (e)(1) and (e)(4) until the add-on air pollution control device has been installed and commenced normal operation.

~~(4)~~(f) Housekeeping Requirements:

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An owner or operator of a ~~hexavalent~~ chromium electroplating or chromic acid anodizing facility shall:

- ~~(A)~~(1) Store chromic acid powder or flakes, or other substances that may contain hexavalent chromium, in a closed container in an enclosed storage area when not in use;
- ~~(B)~~(2) Use a closed container when transporting chromic acid powder or flakes from an enclosed storage area to electroplating or anodizing tanks;
- ~~(C)~~(3) Clean-up, using an approved cleaning method, or contain, using a drip tray or other containment device, any liquid or solid material that may contain hexavalent chromium that is spilled immediately and no ~~later~~longer than one hour after being spilled;
- ~~(D)~~(4) Clean, using an approved cleaning method, surfaces within the enclosed storage area, open floor area, walkways around the electroplating or anodizing tank(s), or any surface potentially contaminated with hexavalent chromium or surfaces that potentially accumulate dust weekly; ~~at least once every seven days in one or more of the following manners: HEPA vacuumed, hand wiped with a damp cloth, wet mopped, or maintained with the use of non-toxic chemical dust suppressants; and~~
- ~~(E)~~(5) Store, dispose of, recover, or recycle chromium or chromium-containing wastes generated from housekeeping activities of this subdivision using practices that do not lead to fugitive ~~emissions~~dust. Containers with

- chromium-containing waste material shall be kept closed at all times except when being filled or emptied;
- (6) Use an approved cleaning method to clean floors within 20 feet of a buffing, grinding, or polishing workstation on days when buffing, grinding, or polishing are conducted; and
- (7) Beginning [30 Days After Date of Rule Adoption], eliminate all flooring on walkways in the tank process areas that is made of fabric, such as carpets or rugs, where hexavalent chromium containing materials can become trapped.
- ~~(F) Install a physical barrier to separate the buffing, grinding, or polishing area within a facility from the hexavalent chromium electroplating or anodizing operation. The barrier may take the form of plastic strip curtains.~~
- ~~(G) Compressed air cleaning operations shall not be conducted at or adjacent to the buffing and grinding areas or the hexavalent chromium electroplating or anodizing operations.~~
- (8) Abatement of Hexavalent Chromium Prior to Cutting of Roof Surfaces
The owner or operator a facility shall:
- (A) Clean affected surface areas using a HEPA vacuum prior to cutting into a building enclosure roof;
- (B) Minimize fugitive emissions during cutting activities using method(s) such as a temporary enclosure and/or HEPA vacuuming; and
- (C) Notify the Executive Officer at least 48 hours prior to the commencement of any roof cutting activities into a building enclosure by calling 1-800-CUT-SMOG.
- (9) Ensure that if a HEPA vacuum is used, that it-the HEPA filter is free of tears, fractures, holes or other types of damage, and securely latched and properly situated in the vacuum to prevent air leakage from the filtration system.
- (g) Best Management Practices
- ~~(H)~~ The owner or operator of a facility shall Mminimize dragout outside of the
- 1) electroplating or anodizing tank(s) by implementing the following practices:

- ~~(i)~~(A) Facilities with automated lines shall have drip trays, or other containment equipment, installed between the electroplating or anodizing tanks ~~so~~ such that the liquid does not fall through the space between tanks. Trays shall be placed such that the liquid is captured and returned to the tank(s), and cleaned such that there is no accumulation of visible dust or residue on the drip tray or other containment equipment potentially contaminated with hexavalent chromium.
- ~~(ii)~~
B) Facilities without automated lines shall handle each electroplated or anodized part, or equipment used to handle such parts, so that liquid containing chromium, including chromic acid, is not dripped outside the electroplating or anodizing tanks, including associated process tanks, unless the liquid is captured by a drip tray or other containment device. Facilities spraying down parts over the electroplating or anodizing tank(s) to remove excess chromic acid shall have a splash guard installed at the tank to minimize overspray and to ensure that any hexavalent chromium laden liquid is captured and returned to the electroplating or anodizing tank. Splash guards shall be cleaned such that there is no accumulation of visible dust potentially contaminated with hexavalent chromium.
- (2) Beginning [90 Days After Date of Rule Adoption], the owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall not spray rinse parts or equipment that were previously in a Tier II or Tier III Hexavalent Chromium Tank, unless the parts or equipment are fully lowered inside a tank where the overspray and the liquid is captured inside the tank. The owner or operator of a facility may alternatively ensure that any liquid containing chromium is captured and returned to the tank by meeting the following conditions when rinsing above a tank:

 - (A) Installing a splash guard(s) at the tank that is free of holes, tears, or openings. Splash guards shall be cleaned weekly with water; or
 - (B) For tanks located within a process line utilizing an overhead crane system that would be restricted by the installation of splash guards specified in subparagraph (g)(2)(A), use a low pressure spray nozzle in a manner where water flows off of the part or equipment and into the tank.

- (3) Beginning [30 Days After Date of Rule Adoption], the owner or operator of a facility shall maintain clear labeling of each tank within the tank process area with a tank number or other identifier, SCAQMD permit number, bath contents, maximum concentration (ppm) of hexavalent chromium, operating temperature range, any agitation methods used, and designation of whether it is a Tier I, Tier II, or Tier III Hexavalent Chromium Tank, if applicable.
- (4) Beginning [90 Days After Date of Rule Adoption], the owner or operator of a facility shall conduct all buffing, grinding, and polishing operations within a building enclosure.
- (5) Beginning [90 Days After Date of Rule Adoption], the owner or operator of a facility shall install a barrier to prevent the migration of dust from buffing, grinding, or polishing areas to the chromium electroplating or chromic acid anodizing operation.
- (6) The owner or operator of facility shall not conduct compressed air cleaning or drying operations within 15 feet of any Tier II or Tier III Hexavalent Chromium Tank(s) unless:
 - (A) A barrier separates the compressed air cleaning or drying operation from the Tier II or Tier III Hexavalent Chromium Tank(s). A tank wall may function as the barrier provided the parts being air cleaned or dried are below the lip of the tank; or
 - (B) Compressed air cleaning or drying operations are conducted in a permanent total enclosure.

(h) Air Pollution Control Technique Requirements

- ~~(5)(1)~~ The owner or operator of a facility Add-on air pollution control device(s)
 - ~~)~~ for hard or decorative chromium electroplating or chromic acid anodizing tanks shall not be removed or rendered inoperable add-on air pollution control device(s) for hard or decorative chromium electroplating or chromic acid anodizing tanks unless it is replaced by air pollution control techniques meeting the requirements in Table 1 - Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks a higher control efficiency than previously achieved, or an emission rate of 0.0015 milligrams per ampere-hour or less, whichever control efficiency is more effective, as demonstrated by a performance test conducted pursuant to

- ~~subdivision (e), or unless the facility is operating under an approved alternative compliance method pursuant to paragraph (d)(6) subdivision (i).~~
- (6) ~~Add-On Control Requirement for Hard Chromium Electroplating Tanks~~
~~During tank operation, each owner or operator of an existing, modified or new source, except facilities that have applied for and received approval for an alternative compliance method pursuant to paragraph (d)(6) or an existing operation that has applied for and received approval for an interim alternative requirement as specified in paragraph (d)(5), shall control hexavalent chromium emissions discharged to the atmosphere from that source by reducing the hexavalent chromium emissions using an add-on air pollution control device.~~
- (7) ~~Training and Certification~~
- (A) ~~Chromium electroplating personnel responsible for environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data shall complete a District approved training program every two years. Initial training shall have been completed prior to May 1, 2004 for facilities existing before that time. For new facilities, initial training must be completed within a period not to exceed two years of start-up.~~
- (B) ~~Only persons who have completed a District approved training program and have received a certification issued by the District shall be responsible for recordkeeping associated with environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data.~~
- (C) ~~Notwithstanding subparagraph (c)(7)(B), in the event that all persons who have completed a District approved training program leave employment at a facility, the owner or operator may be responsible for recordkeeping associated with environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data for a period not to exceed two years.~~
- (8) ~~Interim Emission Standards for Existing Hexavalent Chromium Electroplating and Chromic Acid Anodizing Facilities Located 25 Meters or Less from a Licensed Daycare, Hospital, Convalescent Home, or a~~

~~Residence, or Located 100 Meters or Less from an Existing, as of May 2, 2003, School.~~

~~The following emission limitations shall be in effect until the limits of paragraph (c)(11) become effective.~~

- ~~(A) The owner or operator shall reduce hexavalent chromium emissions to an emission limitation of 0.0015 milligram or less per ampere-hour for each tank, as measured after add-on controls, if any; or~~
- ~~(B) The owner or operator shall comply with any applicable interim alternative compliance option, as specified in paragraphs (d)(1) through (d)(5).~~

- ~~(9) Interim Emission Standards for Existing Hexavalent Chromium Electroplating and Chromic Acid Anodizing Facilities Located More than 25 Meters from a Licensed Daycare, Hospital, Convalescent Home, or a Residence, and More than 100 Meters from an Existing, as of May 2, 2003, School.~~

~~The following emission limitations shall be in effect until the limits of paragraph (c)(11) become effective.~~

- ~~(A) The owner or operator shall reduce hexavalent chromium emissions to an emission limitation of:~~
 - ~~(i) 0.01 milligrams or less per ampere-hour for each tank, as measured after add-on controls, if any, when actual consumption of electrical current used by the facility for electroplating or anodizing tanks subject to this rule is less than the threshold given in Table 1, for the appropriate operating scenario and operating schedule, or the applicable distance-adjusted ampere-hour level as specified in Appendix 7; or~~
 - ~~(ii) 0.0015 milligrams or less per ampere-hour for each tank, as measured after add-on controls, if any, when actual consumption of electrical current used by the facility for electroplating or anodizing tanks subject to this rule exceeds the threshold given in Table 1, for the appropriate facility operating scenario and regular operating schedule, or the applicable distance-adjusted ampere-hour level as specified in Appendix 7; or~~

- (B) ~~The owner or operator shall comply with any applicable interim alternative compliance option, as specified in paragraphs (d)(1) through (d)(5).~~

Table 1

~~Ampere Hour Thresholds for Facilities Located More than 25 Meters from a Sensitive Receptor or a Residence~~

| Operating Scenario | Regular Operating Schedule | Ampere-Hour Threshold |
|---|---------------------------------------|--------------------------------------|
| Vented to Air Pollution Control Device | More than 12 hours per day | 1,800,000 ampere-hours/yr |
| Vented to Air Pollution Control Device | 12 hours per day or less | 1,600,000 ampere-hours/yr |
| Not Vented to Air Pollution Control Device | Any | 1,150,000 ampere-hours/yr |

- (10) ~~Interim Emission Standards for Existing Facilities Conducting Multiple Hexavalent Chromium Electroplating Processes or Anodizing Processes~~

- (A) ~~For any facility subject to paragraph (c)(9) where a combination of hexavalent chromium electroplating or chromic acid anodizing is conducted, the owner or operator shall comply with an emission limitation in lieu of the one specified in paragraph (c)(9). The emission limitation shall be determined by calculating weighted facility energy consumption over any calendar year, using the following equation:~~

$$\text{Weighting Factor} = \frac{\text{Tanks Vented to APC Operating } > 12 \text{ hrs/day (Amp-hrs/yr)}}{(1)} + \frac{\text{Tanks Vented to APC Operating } \leq 12 \text{ hrs/day (Amp-hrs/yr)}}{(2)} + \frac{\text{Tanks Not Vented to APC (Amp-hrs/yr)}}{(3)}$$

~~Where:~~

- (1) ~~= 1,800,000 ampere-hours per year or applicable distance-adjusted ampere-hour level as specified in Appendix 7.~~
- (2) ~~= 1,600,000 ampere-hours per year or applicable distance-adjusted ampere-hour level as specified in Appendix 7.~~
- (3) ~~= 1,150,000 ampere-hours per year or applicable distance-adjusted ampere-hour level as specified in Appendix 7.~~

- ~~(B) If weighted source energy consumption is less than or equal to 1, the applicable emission limitation shall be 0.01 milligram or less per ampere hour for each tank~~
 - ~~(C) If weighted source energy consumption is greater than 1, the applicable emission limitation shall be 0.0015 milligram or less per ampere hour for each tank, as measured after add-on controls, if any.~~
- ~~(11)(~~ Emission Standards for Existing Hexavalent Hard and Decorative
2) Chromium Electroplating and Chromic Acid Anodizing Facilities
~~beginning October 24, 2007~~
- (A) The owner or operator of a facility ~~of an existing facility~~ shall control hexavalent chromium emissions discharged to the atmosphere by meeting the requirements identified below in Table 12 - Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks. Alternatively, a facility can choose to comply by operating under an approved alternative compliance method pursuant to subdivision (i) ~~paragraph (d)(6)~~.

Table 1: Hexavalent Chromium Emission Limits for Hexavalent Hard and Decorative Chromium Electroplating and Chromic Acid Anodizing Tanks

| <u>Facility Type</u> | <u>Distance to Sensitive Receptor (feet)</u> | <u>Annual Permitted Amp-Hrs</u> | <u>Hexavalent Chromium Emission Limit (mg/amp-hr)</u> | <u>Minimum Required Air Pollution Control Technique</u> |
|--------------------------|--|----------------------------------|---|---|
| <u>Existing Facility</u> | <u>< 330¹</u> | <u>< 20,000</u> | <u>0.01</u> | <u>Use of Certified Chemical Fume Suppressant at or below the certified surface tension. Alternatively, a facility may install an add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s) that controls hexavalent chromium emissions to below 0.0015 mg/amp-hr as demonstrated through source test requirements under subdivision (k).</u> |
| <u>Existing Facility</u> | <u>< 330¹</u> | <u>> 20,000</u> | <u>0.0015²</u> | <u>Add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s).</u> |
| <u>Existing Facility</u> | <u>≥ 330¹</u> | <u>< 50,000</u> | <u>0.01</u> | <u>Use of Certified Chemical Fume Suppressant at or below the certified surface tension. Alternatively, a facility may install an add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s) that controls hexavalent chromium emissions to below 0.0015 mg/amp-hr as demonstrated through source test requirements under subdivision (k).</u> |
| <u>Existing Facility</u> | <u>≥ 330¹</u> | <u>≥ 50,000 and < 500,000</u> | <u>0.0015²</u> | <u>Use of an air pollution control technique that controls hexavalent chromium.</u> |
| <u>Existing Facility</u> | <u>≥ 330¹</u> | <u>> 500,000</u> | <u>0.0015²</u> | <u>Add-on air pollution control device(s) or add-on non-ventilated air pollution control device(s).</u> |
| <u>Modified Facility</u> | <u>Any</u> | <u>Any</u> | <u>0.0015²</u> | <u>Using an add-on air pollution control device(s), or an approved alternative method pursuant to subdivision (i).</u> |
| <u>New Facility</u> | <u>Any</u> | <u>Any</u> | <u>0.0011²</u> | <u>Using a HEPA add-on air pollution control device, or an approved alternative method pursuant to subdivision (i).</u> |

¹ Distance shall be measured, rounded to the nearest meter, from the edge of the chromium electroplating or anodizing tank nearest the sensitive receptor (for facilities without add-on air pollution control devices), or from the stack or centroid of stacks (for facilities with add-on air pollution control devices), to the property line of the nearest sensitive receptor.

² As demonstrated by source test requirements under subdivision (k).

Table 2: Hexavalent Chromium Emission Limits for Existing Tanks

| Distance to Sensitive Receptor (meters) | Annual Permitted Ampere-hours | Emission Limit (mg/amp-hr) | Effective Date |
|---|-------------------------------|----------------------------|----------------|
| ≤ 100 | $\leq 20,000$ | 0.01 ² | 4/24/2008 |
| ≤ 100 | $> 20,000$ and $\leq 200,000$ | 0.0015 ¹ | 10/24/2010 |
| ≤ 100 | $> 200,000$ | 0.0015 ¹ | 10/24/2009 |
| > 100 | $\leq 50,000$ | 0.01 ² | 4/24/2008 |
| > 100 | $> 50,000$ and $\leq 500,000$ | 0.0015 | 10/24/2011 |
| > 100 | $> 500,000$ | 0.0015 ¹ | 10/24/2009 |

¹ Measured after add-on air pollution control device(s).

² Achieved through use of Certified Chemical Fume Suppressants. Alternatively, a facility may install an add-on air pollution control device(s) that controls emissions to below 0.0015 mg/amp-hr.

(B) ~~The owner or operator of an existing facility shall submit by November 24, 2007, a notification to the District providing distance(s) to the nearest sensitive receptor. Distances shall be measured as follows:~~

- (i) ~~For facilities that do not have an add-on air pollution control device on October 24, 2007, the measurement shall be the distance, rounded to the nearest foot, from the edge of the hexavalent chromium electroplating or anodizing tank nearest the sensitive receptor to the property line of the nearest sensitive receptor that exists on October 24, 2007.~~
- (ii) ~~For facilities with an add-on air pollution control device on October 24, 2007, the measurement shall be the distance, rounded to the nearest foot, from the centroid of the stack to the property line of the nearest sensitive receptor that exists on October 24, 2007.~~

(C) ~~Screening Health Risk Assessment~~

- (i) ~~The owner or operator of an existing facility shall conduct a screening health risk assessment if annual hexavalent chromium emissions from the chromium electroplating and chromic acid anodizing operations exceed 15 grams in the calendar year following the year of the facility's applicable effective compliance date specified in Table 2 of paragraph (c)(11) and any calendar year thereafter.~~
- (ii) ~~The screening health risk assessment shall be conducted for hexavalent chromium emissions from the hexavalent~~

- ~~chromium electroplating and chromic acid anodizing operations, and in accordance with the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or "Air Toxics Hot Spots Program Risk Assessment Guidelines" (OEHHA Guidelines).~~
- (iii) ~~The owner or operator shall submit the screening health risk assessment to the Executive Officer within 120 days of the end of the calendar year during which the facility's hexavalent chromium emissions exceeded 15 grams.~~
- (iv) ~~The owner or operator may comply with clause (e)(11)(C)(i) by using an existing health risk assessment or screening health risk assessment previously approved by the District provided the existing health risk assessment is:~~
- (I) ~~Based on the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or OEHHA Guidelines; and~~
- (II) ~~representative of the chromium electroplating or chromic acid anodizing operating conditions for the subject year; and~~
- (III) ~~calculated using an annual hexavalent chromium~~
-) ~~emission amount that is equal to or greater than the amount of the subject year; and~~
- (IV) ~~uses receptor distances less than or equal to those for~~
-) ~~the subject year.~~
- (12) ~~Modified Hexavalent Chromium Electroplating or Chromic Acid Anodizing Facilities~~
- (A) ~~The owner or operator of a modified facility shall, upon start-up of modification, control hexavalent chromium emissions from the electroplating or anodizing tank(s) by:~~
- (i) ~~Using an add-on air pollution control device(s), or an approved alternative method pursuant to paragraph (d)(6), to control hexavalent chromium emission, and~~
- (ii) ~~Meeting an emission limit of 0.0015 milligrams per ampere-hour or less.~~
- (B) ~~When annual emissions of hexavalent chromium after modification are expected to exceed 15 grams per calendar year, the owner or~~

- operator shall demonstrate that the modification complies with District Rules 1401, 1401.1 and 1402 prior to initial start-up.
- (13) ~~New Hexavalent Chromium Electroplating and Chromic Acid Anodizing Facilities~~
- ~~(A)~~ The owner or operator of a new facility conducting hexavalent chromium electroplating or chromic acid anodizing operations shall:
- B)
- (i) Demonstrate in its SCAQMD permit application that the new facility is not located in an area that is zoned for residential or mixed use; and
 - (ii) Demonstrate in its SCAQMD permit application that the new facility, ~~determined by the District~~, is not located within 1,000 feet from the boundary of a sensitive receptor, a school under construction, or any area that is zoned for residential or mixed use;
 - ~~(iii)~~ ~~Reduce hexavalent chromium emissions discharged to the atmosphere from the electroplating or anodizing tank(s) by installing a HEPA add-on air pollution control device, or an approved alternative method pursuant to paragraph (d)(6);~~
 - ~~(iv)~~ ~~Meet a hexavalent chromium emission rate of ≤ 0.0011 milligrams/ampere-hour as measured after the HEPA add-on air pollution control device;~~
 - ~~(v)~~ ~~Conduct a facility wide screening health risk assessment for all toxic air contaminant emissions which shall be submitted to the District when filing applications for Permit to Construct/Operate the new equipment. The screening health risk assessment shall be conducted in accordance with the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or *OEHHA Guidelines*; and~~
 - ~~(vi)~~ ~~Comply with District Rules 1401 and 1401.1, if applicable.~~
- ~~(B)~~ A new facility shall be deemed to meet the requirements specified in clauses ~~(e)(13)(A)(i)(h)(2)(B)(i)~~ and (h)(2)(B)(ii) if one of the following criteria is met, even if the facility does not meet the requirement at the time of initial start-up:
- C)

- (i) The requirements specified in clauses ~~(e)(13)(A)(i)(h)(2)(B)(i)~~ and ~~(h)(2)(B)(ii)~~ are met at the time an SCAQMD Permit to Construct is issued ~~by the District~~, and substantial use of the permit to construct takes place within one year after it is issued; or
- (ii) The requirements specified in clauses ~~(e)(13)(A)(i)(h)(2)(B)(i)~~ and ~~(h)(2)(B)(ii)~~ are met at the time an SCAQMD permit to eConstruct is issued ~~by the District~~, and substantial use of the permit to eConstruct ~~takes place~~occurs before any zoning change ~~occurs~~ that affects the operation's ability to meet the requirement at the time of initial start-up.
- ~~(C)(~~ Prior to initial start-up, the owner or operator of a new facility shall Demonstrate to the District that the new facility meets the requirements specified in paragraph ~~(e)(13)(h)(2)~~.
- ~~(14)(~~ Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath
- 3) (A) During tank operation, the owner or operator of an existing, modified, or new facility shall control chromium emissions discharged to the atmosphere by meeting one or more of the requirements identified below.

| Method of compliance | Requirement |
|--|--|
| Add-on air pollution control device, or chemical fume suppressants forming a foam blanket, or mechanical fume suppressants (i.e.e.g. polyballs) | ≤ 0.01 milligrams <u>of total chromium per</u> dry standard cubic meter of air (mg/dscm) (4.4x10 ⁻⁶ gr/dscf) |
| Certified e Chemical fume suppressants containing a wetting agent <u>that is not a PFOS based fume suppressant</u> | Use wetting agent as bath component and comply with recordkeeping and reporting provisions of paragraphs (j)(9)(o)(8) and (k)(p)(5) :- |

- ~~(B) New facilities that perform electroplating using a trivalent chromium bath shall conduct a facility wide screening health risk assessment for all toxic air contaminant emissions which shall be~~

~~submitted to the District when filing applications for Permit to Construct/Operate the new equipment. The screening health risk assessment shall be conducted in accordance with the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or *OEHHA Guidelines*.~~

(15) ~~Permit Application Submittals~~

- (A) ~~The owner or operator of a hexavalent chromium electroplating or chromic acid anodizing facility subject to this rule, that either does not have a permitted annual ampere hour limit, or is requesting a reduction of an existing ampere hour limit, shall submit an application for administrative change of operating condition subject to fees specified in Rule 301. The application shall be submitted to the District no later than February 24, 2009.~~
- (B) ~~The owner or operator of an existing hexavalent chromium electroplating or chromic acid anodizing facility shall submit permit applications for all new or modified equipment necessary to comply with the requirements of Table 2 of paragraph (c)(11). Permit applications shall be submitted to the District no later than 8 months prior to the applicable effective date of Table 2.~~

(4) Tier III Hexavalent Chromium Tanks

- (A) The owner or operator of a facility shall collect and vent hexavalent chromium emissions from any Tier III Hexavalent Chromium Tank, excluding chromium electroplating and chromic acid anodizing tanks subject to paragraph (h)(2), to an add-on air pollution control device, or an approved alternative compliance method pursuant to subdivision (i), that meets the following hexavalent chromium emission limits as demonstrated by source test requirements under subdivision (k):
- (i) 0.0015 mg/amp-hr, for existing facilities, if any tank(s) vented to an air pollution control device are electrolytic;
- (ii) 0.0011 mg/amp-hr, for new facilities, if any tank(s) vented to an air pollution control device are electrolytic;
- (iii) 0.20 mg/hr, if all tanks vented to the add-on air pollution control device are not electrolytic and the ventilation system has a maximum exhaust rate of 5,000 cfm or less;
or

(iv) 0.004 mg/hr-ft², with the applicable surface area based on the surface area of all Tier III Hexavalent Chromium Tank(s) and other tanks required to be vented to an add-on air pollution control device with a SCAQMD Permit to Operate, provided all tanks are not electrolytic, if the ventilation system has a maximum exhaust rate of greater than 5,000 cfm.

(B) For Tier III Hexavalent Chromium Tanks specified in subparagraph (h)(4)(A) existing prior to [Date of Rule Adoption], the owner or operator of a facility shall submit complete SCAQMD permit applications for add-on air pollution control devices to the Executive Officer as specified below:

Table 2: Permit Submittal Schedule for Add-on Air Pollution Control Devices for Previously Existing Tier III Hexavalent Chromium Tanks

| <u>Electrolytic Process at the Facility</u> | <u>Compliance Date for SCAQMD Permit Application Submittal for Add-on Air Pollution Control Device</u> |
|--|---|
| <u>Chromic Acid Anodizing</u> | <u>[180 Days after Date of Rule Adoption]</u> |
| <u>Hard Chromium Electroplating</u> | <u>[365 Days after Date of Rule Adoption]</u> |
| <u>Decorative Chromium Electroplating</u> | <u>[545 Days after Date of Rule Adoption]</u> |

(i) A source test shall be conducted prior to the issuance of a SCAQMD Permit to Operate.

(ii) Beginning no later than [30 days after Date of Rule Adoption] until the add-on air pollution control device specified in subparagraph (h)(4)(B) has been installed, cover the tank no later than 30 minutes after ceasing operation of the tank. Tank covers shall be free of holes, tears, and gaps.

(C) The owner or operator of a facility shall not be subject to the requirement of subparagraph (h)(4)(A) to vent a Tier III Hexavalent Chromium Tank to an add-on air pollution control device if:

- (i) The uncontrolled hexavalent chromium emission rate of the tank is less than 0.2 mg/hr, as demonstrated by a SCAQMD approved source test conducted pursuant to the Technical Guidance Document for *Measurement of Hexavalent Chromium Emissions from Chromium Plating and Chromic Acid Anodizing Operations for Certification of Wetting Agent Chemical Mist Suppressant Subject to SCAQMD Rule 1469*; and
 - (ii) The Tier III Hexavalent Chromium Tank is not a chromium electroplating or chromic acid anodizing tank.
- (5) Tier II Hexavalent Chromium Tank
The owner or operator of a facility shall control hexavalent chromium emissions from a Tier II Hexavalent Chromium Tank by:
 - (A) Utilizing a tank cover, mechanical fume suppressant, or other method approved by the Executive Officer, no later than [90 Days from Date of Adoption]; or
 - (B) Meeting the requirements for a Tier III Hexavalent Chromium Tank specified in subparagraphs (h)(4)(A) and (h)(4)(B).
- (6) Ventilation Design and Operation for Air Pollution Control Techniques
The owner or operator of a facility shall operate air pollution control techniques required under subdivisions (h) and (t) at or above the applicable minimum hood induced capture velocity specified in the most current edition (i.e., at the time the SCAQMD permit application was deemed complete by SCAQMD) of the *Industrial Ventilation, A Manual of Recommended Practice for Design*, published by the American Conference of Governmental Industrial Hygienists.
- ~~(d) Alternative Compliance Options and Methods~~
 - ~~(1) Alternative Interim Compliance Options—Inventory and Health Risk Assessment~~

~~In lieu of complying with the interim requirements of paragraphs (c)(8), (c)(9), or (c)(10) an owner/operator may elect to submit an inventory and health risk assessment prepared pursuant to Rule 1402—Control of Toxic Air Contaminants from Existing Sources, subdivisions (n) [Emissions Inventory Requirements] and (j) [Risk Assessment Procedures].~~

- (A) ~~Health risk assessments approved by the Executive Officer prior to May 2, 2003, shall demonstrate that facility wide emissions of all toxic air compounds result in a cancer risk of:~~
 - (i) ~~Less than 25 in a million for facilities located more than 25 meters from a licensed daycare center, hospital, convalescent home, or a residence, and located more than 100 meters from an existing, as of May 2, 2003, school (kindergarten through grade 12).~~
 - (ii) ~~Less than 10 in a million for facilities located 25 meters or less from a licensed daycare center, hospital, convalescent home, or a residence, or located 100 meters or less from an existing, as of May 2, 2003, school (kindergarten through grade 12).~~
- (B) ~~Health risk assessments not approved by the Executive Officer prior to May 2, 2003, shall demonstrate that facility wide emissions of all toxic compounds with existing controls result in a cancer risk of those specified in (d)(1)(A)(i) or (d)(1)(A)(ii) at their respective receptor distances.~~
 - (i) ~~The inventory and health risk assessment shall be submitted by January 1, 2004.~~
 - (ii) ~~After review, the Executive Officer will notify the facility in writing whether a health risk assessment conducted pursuant to this paragraph is approved or disapproved.~~
 - (iii) ~~If a health risk assessment conducted pursuant to this paragraph is disapproved, or if the approved cancer risk exceeds those specified in (d)(1)(A)(i) or (d)(1)(A)(ii) at their respective receptor distances, the facility shall comply with the applicable interim requirements of (c)(8), (c)(9), or (c)(10) no later than one year after notification by the District. Within 60 days from the date of disapproval, the owner or operator shall begin use of a wetting agent chemical fume suppressant certified pursuant to subdivision (f).~~
- (C) ~~The owner or operator of a facility subject to subparagraph (d)(1)(A) or (d)(1)(B) shall comply with enforceable conditions to~~

- ~~ensure that controls result in a cancer risk of those specified in (d)(1)(A)(i) or (d)(1)(A)(ii) at their respective receptor distances.~~
- (D) ~~If a health risk assessment, approved under this paragraph as demonstrating a cancer risk of those specified in (d)(1)(A)(i) or (d)(1)(A)(ii) at their respective receptor distances, is subsequently determined to demonstrate actual cancer risks exceeding 25 in a million or 10 in a million, as applicable, the health risk assessment will be disapproved and the owner or operator of the facility shall comply with the specific applicable interim requirements of (c)(8), (c)(9), or (c)(10) no later than one year after notification of disapproval by the District. Within 60 days from the date of notification, the owner or operator shall begin use of a wetting agent chemical fume suppressant certified pursuant to subdivision (f).~~
- (2) ~~Alternative Interim Compliance Options — Emission Reduction Plan~~
- (A) ~~In lieu of complying with the specific interim requirements of paragraph (c)(8), the owner or operator of a facility located 25 meters or less from a licensed daycare center, hospital, convalescent home, or a residence, or located 100 meters or less from an existing, as of May 2, 2003, school (kindergarten through grade 12) may elect to submit an Emission Reduction Plan identifying potential emission reduction strategies on or before May 1, 2004. The plan shall demonstrate that facility-wide hexavalent chromium emissions result in a cancer risk of ≤ 10 in a million and shall include, but is not limited to, the following areas:~~
- (i) ~~pollution prevention;~~
- (ii) ~~voluntary, enforceable reduction in ampere hour limits;~~
- ~~and~~
- (iii) ~~installation of add-on control.~~
- (B) ~~Following Executive Officer approval, the owner or operator of a facility that elects to implement an Emissions Reduction Plan shall do the following:~~
- (i) ~~submit all necessary permit applications within 90 days of plan approval; and~~
- (ii) ~~install necessary control equipment within 15 months from the date of plan approval; and~~

- (iii) ~~conduct any performance test required for compliance with a permit condition or a compliance plan condition pursuant to subdivision (e).~~
- (3) ~~Alternative Interim Compliance Options — Maximum Installed Controls Effective May 1, 2005, in lieu of complying with the interim requirements of paragraphs (c)(8), (c)(9), or (c)(10) the owner or operator shall use HEPA or an equivalent air pollution control technique and use a wetting agent chemical fume suppressant, certified under subdivision (f), and comply with all applicable permit conditions and approved Compliance Plan conditions.~~
- (4) ~~Alternative Interim Compliance Options — Facility-wide Mass Emission Rate~~
 - (A) ~~As an alternative to complying with the interim emission limitation requirements of paragraph (c)(9), the owner or operator of a facility that is located more than 25 meters from a licensed daycare center, hospital, convalescent home, or a residence, and located more than 100 meters from an existing, as of May 2, 2003, school (kindergarten through grade 12) shall provide calculations in the Compliance Plan to demonstrate that facility-wide emissions of hexavalent chromium do not exceed the threshold in Table 3 for the appropriate facility operating scenario and regular operating schedule, or the applicable distance-adjusted annual emission level as specified in Appendix 7.~~

Table 3
Annual Emission Thresholds for Facilities Located More than 25 Meters from a Licensed Daycare Center, Hospital, Convalescent Home, or a Residence

| Operating Scenario | Regular Operating Schedule | Annual Emission Threshold |
|--|----------------------------|---------------------------|
| Vented to Air Pollution Control Device | 12 hours per day or less | 0.036 lbs/yr |
| Vented to Air Pollution Control Device | More than 12 hours per day | 0.04 lbs/yr |
| Not Vented to Air Pollution Control Device | Any | 0.025 lbs/yr |

- ~~(B) The owner or operator of a facility complying with this paragraph shall use the Hexavalent Chromium Source Test Parameter Guidance Document to establish testing parameters.~~
- ~~(C) The owner or operator of a facility complying with this paragraph shall update the facility wide emissions calculations every year using process information from the preceding twelve months, and shall provide such calculations upon request.~~
- (5) ~~Alternative Interim Compliance Options — Alternative Standards for Existing Hexavalent Chromium Electroplating and Chromic Acid Anodizing Facilities with Low Annual Ampere Hour Usage~~

 - ~~(A) Until the emission limits of paragraph (c)(11) become effective, the Executive Officer may approve a Compliance Plan specifying interim alternative standards for facilities with actual consumption of electrical current less than or equal to 365,000 ampere-hours for any calendar year. For hard chromium electroplating facilities constructed on or before December 16, 1993, the Executive Officer, with U.S. EPA concurrence shall approve this plan if equivalent results are obtained. Upon approval, the requirements identified in the plan shall be the applicable requirements under this regulation.~~
 - ~~(B) At a minimum, the hexavalent chromium electroplating or chromic acid anodizing tank shall use chemical fume suppressants containing a wetting agent to lower the surface tension of the electroplating bath to no more than 45 dynes per centimeter (dynes/cm) (3.1×10^{-3} pound-force per foot [lbF/ft]), or the surface tension established during testing of a certified fume suppressant under subdivision (f).~~
 - ~~(C) Upon approval of a facility's Compliance Plan, the Executive Officer may require additional emission reduction techniques as necessary to reduce the public health impact of emissions from the operation.~~
 - ~~(D) The owner or operator shall comply with the applicable monitoring [subdivision (g)], recordkeeping [subdivision (j)], and reporting [subdivision (k)] requirements.~~
 - ~~(E) If the facility is located 25 meters or less from a licensed daycare center, hospital, convalescent home, or a residence, or located 100 meters or less from an existing, as of May 2, 2003, school~~

~~(kindergarten through grade 12), and actual consumption of electrical current exceeds 500,000 ampere hours per year after May 2, 2003, the owner or operator shall use HEPA or an equivalent air pollution control technique and use a wetting agent chemical fume suppressant certified under subdivision (f), on all hexavalent chromium electroplating and chromic acid anodizing tanks. An application for a permit to construct the control equipment shall be filed within 90 days of the date of the approved Notice of Violation for the ampere hour threshold exceedance and the control equipment shall be installed within 15 months from the date of the approved Notice of Violation for the ampere hour threshold exceedance.~~

~~(F) Emission-Related Exceedance~~

- ~~(i) Effective November 1, 2003, the owner or operator of a facility subject to paragraph (d)(5) located 25 meters or less from a licensed daycare center, hospital, convalescent home, or a residence, or located 100 meters or less from an existing, as of May 2, 2003, school (kindergarten through grade 12) that is using a wetting agent chemical fume suppressant with no associated add-on air pollution control device(s) will begin to accrue notices of violation for emission-related exceedances specified under (d)(5)(F)(ii). The owner or operator of a facility who accrues three or more approved notices of violation for an emission-related exceedance within a five year period shall comply with the emission limitation specified in subparagraph (e)(8)(A) by installing a ventilation system and HEPA controls, or equivalent controls, on all hexavalent chromium electroplating and chromic acid anodizing tanks. An application for a permit to construct the control equipment shall be filed within 90 days of the date of the third approved notice of violation and the control equipment shall be installed within 15 months from the date of the third approved notice of violation.~~
- ~~(ii) An emission-related exceedance, for the purpose of this rule, is defined as:~~

- ~~(I) exceeding the applicable surface tension limit established under subdivision (f) or subparagraph (d)(5)(B) for a wetting agent chemical fume suppressant; or~~
- ~~(II) exceeding the ampere hour limit specified in subparagraph (d)(5)(A) by 135,000 ampere hours per year, or less, or exceeding the ampere hour limit in an approved Compliance Plan condition for any calendar year; or~~
- ~~(III) exceeding the chromic acid weight concentration) limit specified in any permit issued after May 2, 2003; or~~
- ~~(IV) a missing stalagmometer, tensiometer, or ampere-) hour meter or a broken or inoperable stalagmometer, tensiometer, or ampere-hour meter unless:
 - ~~(a) it is repaired or replaced within one week after its breakdown; or~~
 - ~~(b) the tank or tanks served by the device are removed from service until the device has been repaired or replaced; or~~
 - ~~(c) the owner can provide proof of ordering a new device within 7 days after the device became broken or inoperable, and the device is replaced within 14 days after it became broken or inoperable.~~~~
- ~~(iii) For the purpose of counting notices of violations which may trigger the installation of controls pursuant to this subparagraph, a notice of violation shall be counted as a single emission-related exceedance even if it cites multiple emission-related exceedances as defined in subparagraph (d)(5)(F), provided that the multiple emission-related exceedances are based on a single field inspection conducted in one day.~~
- ~~(iv) The provisions of subparagraph (d)(5)(F) shall apply to an owner or operator of a facility within any five year time period.~~

- (v) ~~The provisions of this paragraph shall in no way limit the evaluation or prosecution by the District of any notices of violation or any emissions related exceedances contained therein.~~

~~(6)(i)~~ Alternative Compliance Methods for Existing, Modified, and New New, Modified and Existing Hexavalent Decorative and Hard Chromium Electroplating and Chromic Acid Anodizing Facilities

The owner or operator of a facility ~~may that elects to~~ submit to the District an alternative compliance method(s) to subparagraphs (e)(11)(A) for existing facilities, clause (e)(12)(A)(i) for modified facilities, and clause (e)(13)(A)(iii) for new facilities. ~~In order to operate under this paragraph, the owner or operator shall:~~

- ~~(A)(~~ Submit an SCAQMD permit application that includes the information
 - 1) contained in Appendix 8-7 to the Executive Officer; and-
 - ~~(B)(~~ Demonstrate that the alternative method(s) is enforceable, provides an
 - 2) equal, or greater hexavalent chromium emission reduction, and provides an equal, or greater risk reduction than would direct compliance with the emission limits requirements of specified in paragraphs (e)(11)(A)(h)(2) and; (h)(4), and (h)(5) for existing facilities, (e)(12)(A)(i) for modified facilities, and (e)(13)(A)(iii) for new facilities.
- ~~(C)~~ Implement alternative method(s), upon approval by the Executive Officer, within the applicable compliance dates of Table 2 of (e)(11)(A) for existing facilities and prior to initial start-up for new or modified facilities.

~~(j)~~ Training and Certification

- (1) Chromium electroplating and chromic acid anodizing personnel responsible for environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data shall complete a SCAQMD approved training program every two years and receive a certification issued by the Executive Officer. For new facilities, initial training must be completed within a period not to exceed two years from start-up.
- (2) Only persons who have completed a SCAQMD approved training program and have received a certification issued by the Executive Officer shall be responsible for recordkeeping associated with environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data.

(3) Notwithstanding paragraph (j)(2), in the event that all persons who have completed a SCAQMD approved training program and received a certification issued by the Executive Officer leaves employment at a facility, the owner or operator of a facility may be responsible for recordkeeping associated with environmental compliance, maintaining electroplating bath chemistries, and testing and recording electroplating bath surface tension data for a period not to exceed two years.

(ek) Performance-Source Test Requirements and Test Methods

(1) Performance-Source Test Requirements

(A) The owner or operator of an existing a facility using add-on air pollution control device(s), foam blanket chemical fume suppressants, or mechanical fume suppressants to comply with the requirements of paragraphs (e)(8) through (e)(11), (d)(5), or any source electing to comply with the mg/dsem emission standard in paragraph (e)(14) required to meet an emission limit pursuant to paragraphs (h)(2) or (h)(4) shall conduct an performanceinitial source test and subsequent source tests pursuant to the schedule specified in Table 3 – Source Tests Schedule. –to demonstrate compliance with the applicable emission standards within 180 days after initial startup or before the applicable effective date listed in Table 2 of paragraph (e)(11), whichever is sooner. New or modified facilities complying with the requirements of paragraphs (e)(12) and (e)(13) shall conduct a performance test within 60 days after initial start-up.

Table 3: Source Tests Schedule

| <u>Facility-wide Permitted Annual Ampere-Hours</u> | <u>Due Date of Initial Source Test Protocol^a</u> | <u>Initial Source Test Date</u> | <u>Due Date of Subsequent Source Test Protocol</u> | <u>Subsequent Source Tests</u> |
|---|--|---|--|--|
| <u>> 20,000,000</u> | <u>No later than 180 Days After Date of Rule Adoption]</u> | <u>No later than 120 days after approval of the initial source test protocol.</u> | <u>180 days prior to the due date of the subsequent source test.</u> | <u>No later than 60 months from the day of the most recent source test that demonstrates compliance with all applicable requirements</u> |
| <u>< 20,000,000 and > 1,000,000</u> | <u>No later than 365 Days After Date of Rule Adoption]</u> | | | |

| | | | | |
|--------------------|---|--|--|---|
| <u>≤ 1,000,000</u> | <u>No later than [545 Days After Date of Rule Adoption]</u> | | | <u>No later than 84 months from the day of the most recent source test that demonstrates compliance with all applicable requirements.</u> |
|--------------------|---|--|--|---|

^a New or modified air pollution control techniques used to meet the emission limits under paragraphs (h)(1), (h)(2), or (h)(4) permitted after [Date of Adoption], shall submit the initial source test protocol 60 days after initial start-up of the air pollution control technique.

- (B) The owner or operator of a facility may conduct the initial source test after the 120 days specified in Table 3 - Source Tests Schedule, provided:
- (i) A written request 30 days before the due date of the source test is submitted to the Executive Officer;
 - (ii) The additional time needed is substantiated by reason(s) outside of their control; and
 - (iii) The Executive Officer approves the request in writing no later than the due date of the source test.
- (C) The owner or operator of a facility may use an existing source test conducted after January 1, 2015 to demonstrate compliance with the initial source test requirements of subparagraph (k)(1)(A), provided:
- (i) The applicable emission limits in subdivision (h) are demonstrated;
 - (ii) The operating conditions during the source test are representative of the operating conditions as of [Date of Rule Adoption];
 - (iii) Test methods specified in paragraph (k)(2) are used.
- (D) No later than [30 days after Date of Rule Adoption], an owner or operator of a facility using a source test pursuant to subparagraph (k)(1)(C) that is not approved, shall submit the source test to the Executive Officer for approval.
- (E) An owner or operator of a facility that elects to use an existing source test pursuant to subparagraph (k)(1)(C), shall conduct the first subsequent source test no later than January 1, 2024 and conduct all other subsequent source tests pursuant to schedule in Table 3 - Source Tests Schedule.

- (F) The owner or operator of a facility that fails a capture efficiency test that is required by subparagraph (m)(1)(B) or a smoke test required by subparagraph (m)(1)(E) shall conduct a subsequent source test:

 - (i) No later than 36 months from the day of the most recent source test; or
 - (ii) Within 90 days from the failed capture efficiency or smoke test.
- (G) The owner or operator of a facility may resume conducting subsequent source tests according to the schedule in Table 3 - Source Tests Schedule if there are no failed capture efficiency- or smoke tests pursuant to paragraph (m)(1) for 36 consecutive months after the most recent failed capture efficiency or smoke test.
- ~~(2) Use of Existing Performance Test~~

 - ~~(A) A performance test conducted prior to July 24, 1997 may be used to demonstrate compliance with applicable interim emission standards specified in (e)(8), (e)(9), (e)(10), and (d)(5), or the mg/dsem emission standard in (e)(14) provided the existing source test is approved by the Executive Officer.~~
 - ~~(B) A performance test conducted after January 1, 2000 may be used to demonstrate compliance with emission standards of paragraph (e)(11) or (e)(14) upon District approval. The owner or operator of the facility shall submit the subject performance test to the District's Compliance Division by February 24, 2009 for evaluation, and shall meet, at a minimum, the following criteria:~~

 - ~~(i) The test demonstrated compliance with the applicable emission limits of paragraph (e)(11) or (e)(14); and~~
 - ~~(ii) The test is representative of the method to control emissions currently in use as of December 5, 2008; and~~
 - ~~(iii) The test was conducted using one of the approved test methods specified in paragraph (e)(3).~~
- ~~(32) Approved Test Methods~~

 - ~~(A) Emissions testing shall be conducted in accordance with one of the following test methods:~~

 - ~~(i) CARB Test Method 425, last amended July 28, 1997, (section 94135, Title 17, California Code of Regulations (CCR)); or~~

- (ii) U.S. EPA Method 306, (40 CFR 63 Appendix A) with a minimum of three test runs; or
 - (iii) SCAQMD Method 205.1, for results reported as total chromium.
 - (B) Emissions testing ~~from the cover of electroplating and anodizing tanks~~for add-on non-ventilated air pollution control devices shall be conducted in accordance with a Smoke Test for Add-on Non-Ventilated Air Pollution Control Device(s) to Verify the Seal Integrity of Covers Designed to Reduce Chromium Emissions from Electroplating and Anodizing Tanks procedures (See Appendix 5).
 - (C) Surface tension using a tensiometer shall be measured in accordance with U.S. EPA Method 306B (40 CFR 63 Appendix A). Surface tension using a stalagmometer shall be measured using the procedure set forth in Appendix 409, or an alternative procedure approved by the ~~District~~ Executive Officer.
- (3) Use of Emissions Screening Tests
- (A) The owner or operator of a facility may use an emissions screening test in lieu of a complete source test to comply with the requirements for a subsequent source tests in Table 3 - Source Tests Schedule provided:
 - (i) The emissions screening test consists of one run to evaluate the hexavalent chromium emissions for a Tier II or Tier III Hexavalent Chromium Tank;
 - (ii) The emissions screening test shall be conducted in accordance with a source test protocol previously submitted and approved by the Executive Officer is used; and
 - (iii) The most recent complete source test is representative of operating conditions of the emission screening test.
 - (B) The owner or operator of a facility may conduct an emissions screening test in lieu of a complete source test to comply with the requirements for an initial source test in Table 3 - Source Tests Schedule provided:
 - (i) The emissions screening meets the requirements of clauses (k)(3)(A)(i) through (iii);

- (ii) The owner or operator of a facility conducted a source test after January 1, 2009 that meets the requirements of clauses (k)(1)(C)(i) through (iii); and
 - (iii) No later than [30 days after Date of Rule Adoption], an owner or operator of a facility using a source test that is not approved to satisfy clause (k)(3)(B)(ii) that is not approved, shall submit the source test to the Executive Officer for approval.
 - (C) Within 30 days of receiving the results, the owner or operator of a facility shall submit the results of the emissions screening test to the Executive Officer.
 - (D) The owner or operator of a facility shall conduct a complete source test using an approved test method specified under paragraph (k)(2) within 60 days of conducting a failed emissions screening test that:
 - (i) Fails the capture efficiency test(s) specified in the source test protocol;
 - (ii) Exceeds an emission limit specified in the SCAQMD Permit to Operate; or
 - (iii) Exceeds an emission standard specified in subdivision (h).
- (4) Pre-Test Source Test Protocol
 - (A) Facilities subject to the provisions of paragraph (e)(1), above, that are either installing new equipment or modifying existing equipment, shall submit a pre-test protocol at least 60 days prior to conducting a performance test. Facilities that are conducting a performance test for existing equipment that require no modification, shall submit a pre-test protocol to the District's Compliance Division no later than 8 months prior to the applicable effective date of Table 2 of paragraph (e)(11).
 - (B)(A) The pre-test source test protocol shall include the performance source test criteria of the end-user and, all assumptions, required data, and calculated targets for testing the following:
 - (i) Target chromium concentration;
 - (ii) Preliminary chromium analytical data; and
 - (iii) Planned sampling parameters.

~~(C)~~ In addition, the pre test protocol shall include information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated test.

~~(D)~~ The most recent SCAQMD approved source test protocol may be used for subsequent source tests, provided there are no changes to the tank dimensions, collection slots, ventilation flow rate, sampling location(s), sampling method, or analytic method(s).

(5) Emission Points Test Requirements

Each emission point subject to the requirements of this rule shall be tested unless a waiver is granted by U.S. EPA and approved by the Executive Officer.

~~(6)~~ For any interim alternative compliance option in subdivision (d) that requires the results of a performance test to demonstrate facility wide emissions or cancer risk, or any facility operating under an alternative compliance method pursuant to paragraph (d)(6), the owner or operator shall submit a performance test conducted pursuant to subdivision (e).

~~(7)~~ Capture Efficiency

~~(A)~~
6)

The owner or operator of a facility that is required to conduct a source test pursuant to subdivision (k) shall using an add-on air pollution control device to comply with the requirements of paragraphs (e)(8) through (e)(13), (d)(5), (d)(6), or any source electing to comply with the mg/dsem emission standard in paragraph (e)(14), shall that all emissions are captured by using a quantitative measurement approved by the District. The demonstration shall be made during any performance test specified in paragraph (e)(1) conducted after December 5, 2008. An example of an approved quantitative measurement is demonstrating that the capture system meets the design criteria and ventilation velocities specified in the American Conference of Governmental Hygienists Industrial Ventilation, A Manual of Recommended Practice. demonstrate that each add on-air pollution control device meets the design criteria and ventilation velocities specified in A Manual of Recommended Practice for Design authored by the American Conference of Governmental Industrial HygienistsHygienists or alternative design criteria and ventilation velocities approved by the Executive Officer.

~~(B)~~(7) Smoke Test

7)

The owner or operator of a facility-subject to ~~(e)(7)(A)~~ shall periodically conduct a smoke test in order to demonstrate continuous compliance with the capture efficiency of the ventilation system air pollution control device or add-on non-ventilated air pollution control device. The test shall be : shall conduct an acceptable smoke test for each add-on air pollution control device pursuant to Appendix 5 and each add-on non-ventilated air pollution control device pursuant to Appendix 8.

- ~~(i)~~ Conducted using the method described in Appendix 9, or any other method deemed acceptable by the Executive Officer;
 - ~~(ii)~~ Conducted initially upon start-up for new and modified facilities, and within 60 days of the effective date of this rule for existing facilities; and
 - ~~(iii)~~ Conducted periodically by the facility at least once every six months of a previously conducted test.
- ~~(C)~~ (iv) The owner or operator of a ventilation system that demonstrates non-compliance with any smoke test shall immediately shutdown, upon discovery, all electroplating or anodizing lines associated with such ventilation systems until a smoke test demonstrating full compliance with subparagraph ~~(e)(7)(B)~~ is achieved.

~~(F)~~(1) Certification of Wetting Agent Chemical Fume Suppressants

(1) Any wetting agent chemical fume suppressant used to comply with the requirements of this rule shall be certified by the Executive Officer as able to reduce or suppress hexavalent chromium emissions at the surface of an electroplating or anodizing bath through the reduction of surface tension of the bath to a level at which an emission factor below 0.01 milligrams per ampere hour is achieved. Wetting agent chemical fume suppressants shall meet, at a minimum, a surface tension below ~~45~~40 dynes/cm, as measured by a stalagmometer, or below ~~35~~33 dynes/cm, as measured by a tensiometer, unless an alternative is approved pursuant to subdivision ~~(q)~~(m). The Executive Officer will publish and periodically update a list of certified chemical fume suppressants.

- (1) The owner or operator of a facility shall not add PFOS based chemical fume suppressants to any chromium electroplating or chromic acid anodizing bath.
- (2) The owner or operator of a facility that elects to use a wetting agent chemical fume suppressant to comply with the requirements of this rule shall only use a wetting agent chemical fume suppressant(s) that:

 - (A) Reduces or suppresses hexavalent chromium emissions at the surface of an electroplating or anodizing bath to meet an emission factor below 0.01 milligrams per ampere hour,
 - (B) Meets a surface tension below 40 dynes/cm, as measured by a stalagmometer, or below 33 dynes/cm, as measured by a tensiometer, unless an alternative is approved pursuant to subdivision (q), and
 - (C) Has been certified by the Executive Officer based on a certification process conducted by SCAQMD and CARB.
- (3) The owner or operator of a facility shall use certified chemical wetting chemical fume suppressants in accordance with the certification and manufacturer specifications.
- (4) No later than January 1, 2020, the Executive Officer shall notify the owner or operator of a facility of the following information:

 - (A) The availability of a wetting agent chemical fume suppressant(s) that meet the requirements of paragraph (1)(1) and (1)(2) by July 1, 2021; and
 - (B) The certification status of any potential wetting agent chemical fume suppressants going through the certification process conducted by SCAQMD and CARB.
- (5) Beginning July 1, 2021, the owner or operator of a facility shall only add a wetting agent chemical fume suppressant to a electroplating or chromic acid anodizing tank that meets requirements based on the information in the notice as required by paragraph (1)(4).
- (6) If the notice specified in paragraph (1)(4) indicates that a wetting agent chemical fume suppressant that meets the requirements of paragraph (1)(1) and (1)(2) will not be available for use by July 1, 2021, then the owner or operator of a facility shall install an SCAQMD permitted air pollution control technique, with the exception of a chemical fume suppressant, to

meet the emission limits specified in paragraph (h)(2) no later than July 1, 2021.

- (7) In lieu of complying with paragraph (l)(5), the owner or operator of a facility may submit no later than January 1, 2021, a written and signed commitment to the Executive Officer stating that the facility will phase out by July 1, 2022, the use of hexavalent chromium in the electroplating or chromic acid anodizing tank(s) that use a wetting agent chemical fume suppressant. The owner or operator of a facility may continue to use a wetting agent chemical fume suppressant.
- (8) An owner or operator of a facility that fails to phase out the use of hexavalent chromium by July 1, 2022 pursuant to paragraph (l)(7) will be required to cease operation of the electroplating or chromic acid anodizing tank that contains hexavalent chromium until the facility can meet the emission limits specified in paragraph (h)(2) for the subject tank.

(gm) Parameter Monitoring

- (1) Add-On Air Pollution Control Device(s) and Add-On Non Ventilated Air Pollution Control Device(s)

(A) Pressure Drop

~~The owner or operator shall continuously monitor the pressure drop across an add-on air pollution control device such as a composite mesh pad (CMP), packed-bed scrubber (PBS), a CMP/PBS, fiber-bed mist eliminator, and a High Efficiency Particulate Arrestors (HEPA) filter with a mechanical gauge. The gauge shall be located so that it can be easily visible and in clear sight of the operation or maintenance personnel. The pressure drop shall be maintained within ± 1 inch of water of the value established during the performance test to demonstrate compliance with the emission limitation for CMP, PBS, a CMP/PBS, and a fiber-bed mist eliminator. The pressure drop shall be maintained within $\pm 1/2$ times to ± 2 times the inches of water of the value established during the performance test to demonstrate compliance with the emission limitation for HEPA filters.~~

(B)(Inlet Velocity Pressure and Air Flow

A)

~~The owner or operator of a facility shall continuously monitor the operation of the add-on air pollution control device by: continuously monitor the inlet velocity pressure of a packed bed scrubber with a mechanical gauge. The gauge shall be located so that it is easily visible and in clear sight of the operation or maintenance personnel. The inlet velocity pressure shall be maintained within ± 10 percent of the value established during the performance test to demonstrate compliance with the emission limitation.~~

- (i) Installing and maintaining a device to measure the applicable pressures and air flows specified in Table 4 - Pressure and Air Flow Measurement Parameters;
- (ii) Installing each device so that it is accessible and in clear sight of the operation or maintenance personnel;
- (iii) Maintaining -all parameters identified in Table 4 - Pressure and Air Flow Measurement Parameters within the range specified in the Facility's SCAQMD Permit to Operate;
- (iv) Labeling each mechanical gauge with the corresponding acceptable operating ranges established during the most recent source test and within the range specified in the SCAQMD Permit to Operate; and
- (v) Maintaining the mechanical gauges in accordance to the requirements in Appendix 4.

Table 4:
Pressure and Air Flow Measurement Parameters

| <u>Permitted Air Pollution Control Technique</u> | <u>Location</u> | <u>Parameter Monitored</u> | <u>Units</u> | <u>Monitoring Start Date</u> |
|--|---|--|--|---|
| <u>Push-Pull Systems</u> | <u>Push Manifold</u> | <u>Static Pressure</u> | <u>Inches of water</u> | <u>60 Days After Completion of Initial Source Test or within [60 Days of Date of Rule Adoption]</u> |
| <u>All</u> | <u>Collection Manifold or Any Location within the System Using a Flow Meter</u> | <u>Static Pressure or Volumetric Flow Rate</u> | <u>Inches of water or Actual Cubic Feet per Minute</u> | <u>60 Days After Completion of Initial Source Test or within [60 Days of Date of Rule Adoption]</u> |
| <u>Existing on or Before [Date of Rule Adoption]</u> | <u>Across Each Stage of the Control Device</u> | <u>Differential Pressure</u> | <u>Inches of water</u> | <u>[Date of Rule Adoption]</u> |
| <u>Installed after [Date of Rule Adoption]</u> | <u>Across Each Stage of the Control Device</u> | <u>Differential Pressure</u> | <u>Inches of water</u> | <u>60 Days After Completion of Initial Source Test</u> |

(B) Velocity of Collection Slots

Beginning 60 days after the completion of the initial source test required in Table 3 – Source Test Schedule and at least once every 180 days thereafter, the owner or operator of a facility shall demonstrate that emissions are captured by the add-on air pollution control device that meets the requirements in Table 5 - Add-on Air Pollution Control Device Parameter Monitoring using any of the following:

- (i) A hot-wire anemometer;
- (ii) A vane anemometer; or
- (iii) A device or method approved by the Executive Officer.

Table 5: Add-on Air Pollution Control Device Parameter Monitoring

| | <u>Collection Slot(s) Velocity¹</u> | <u>Push Air Manifold Pressure (for push- pull systems only)</u> | <u>Required Action</u> |
|--|---|--|---|
| Row 1: Acceptable Measurement | <u>≥ 95% of the most recent passing source test or emission screening; or ≥ 2,000 fpm</u> | <u>95-105% compared to the most recent passing source test or emission screening</u> | <u>None</u> |
| Row 2: Repairable Measurement | <u>90-95% of the most recent passing source test or emission screening test, or < 2,000 fpm and > 1,800 fpm</u> | <u>90-95% or 105-110% of the most recent passing source test or emission screening test</u> | <u>Repair or replace, and re-measure within 3 calendar days of measurement</u> |
| Row 3: Failing Measurement | <u>< 90% of the most recent passing source test or emission screening test, or <1,800 fpm</u> | <u>> 110% or < 90% of the most recent passing source test or emission screening test</u> | <u>Immediately shut down any tanks controlled by the add-on air pollution control device that had a failing measurement</u> |

¹ If the measured slot velocity occurs in multiple rows, the owner or operator shall implement the required action in the ~~the~~ lower numbered row. For example the owner or operator would implement the required action in Row 2, if the measured slot velocity occurs in Rows 2 and 3.

(C) Repairable Measurements

The owner or operator of a facility with an add-on air pollution control device that demonstrates a repairable measurement shall correct in a timely manner as specified in Table 5: - Add-on Air Pollution Control Device Parameter Monitoring.

(D) Failing Measurements

Upon failure to correct a repairable measurement in a timely manner or detection of a failing measurement, the owner or operator of a facility shall shut down a tank controlled by an add-on air pollution control device until the collection slot velocity and/or push air manifold pressure are within the acceptable measurement range.

(E) Smoke Test Requirements

Once every 180 days the owner or operator of a facility subject to subparagraph (k)(7) shall conduct a smoke test:

- (i) Using a method described in Appendix 5, Appendix 8, or any other method deemed acceptable by the Executive Officer; and
- (ii) Within 30 days of start-up for new and modified add-on air pollution control devices or add-on non-ventilated air pollution control devices.

(F) Failure of Smoke Test

The owner or operator of a facility shall conduct an acceptable smoke test for each add-on air pollution control device pursuant to Appendix 5 and each add-on non-ventilated air pollution control device pursuant to Appendix 8. If an acceptable smoke test is not conducted the owner or operator of a facility shall immediately shutdown all Tier II and Tier III Hexavalent Chromium Tanks associated with the add-on air pollution control device or add-on non-ventilated air pollution control device until an acceptable smoke test is conducted.

~~(B)~~ HEPA Filters

FG)

Beginning 60 days after completion of the initial source test as required by paragraph (k), the owner or operator of a facility with an add-on air pollution control device equipped with HEPA filters shall ensure that the device to monitor pressure drop pursuant to subparagraph (m)(1)(A):

- (i) Is equipped with ports to allow for periodic calibration in accordance with manufacturer specifications;
- (ii) Is calibrated according to manufacturer specifications at least once every calendar year; and
- (iii) Is maintained in accordance with manufacturer's specifications.

(2) Wetting Agent Chemical Fume Suppressants (Excluding Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath)

- (A) The owner or operator of a facility shall ~~monitor~~ maintain the surface tension of the chromium electroplating or chromic acid anodizing tank that contains a certified wetting agent chemical fume suppressant with either a stalagmometer or tensiometer using the applicable method pursuant to subparagraph ~~(e)(3)(C)~~(k)(2)(C). The surface tension shall be maintained below the respective value established in the list of certified wetting agent chemical fume suppressants pursuant to subdivision ~~(f)(1)~~, or at or below a ~~more stringent~~ value specified in the SCAQMD Permit to Operate conditions or approved Compliance Plan conditions. Surface tension shall be measured daily for 20 operating days, and weekly thereafter as long as there is no violation of the surface tension

~~requirement. If a violation occurs, the measurement frequency shall return to daily for 20 operating days, and weekly thereafter.~~

(B) The owner or operator of a facility shall measure the surface tension every third operating day but not less than once per week.

(C) If at any time the surface tesnsion required by paragraph (m)(2)(A) is not maintained, the owner or operator of a facility shall measure the surface tension:

(i) Daily for 20 consecutive operating days; and

(ii) Resume the measurement schedule pursuant to subparagraph (m)(2)(B).

~~(D)~~) The owner or operator of a facility operating under an approved alternative compliance method pursuant to paragraph (d)(6) subdivision (i), and using chemical fume suppressants as all or partial control of hexavalent chromium emissions must measure and monitor the surface tension of the electroplating or anodizing bath each operating day daily. The surface tension must be maintained at or below the surface tension measured during the performance source test.

(3) Fume Suppressants Forming a Foam Blanket

(A) The owner or operator of a facility shall maintain the foam blanket thickness across the surface of the chromium electroplating or chromic acid anodizing tank established during the most recently approved source test to demonstrate compliance with the emission limit specified in paragraph (h)(2) or (h)(4).

(B) The owner or operator of a facility shall measure the foam blanket thickness each operating day.

(C) If at any time the foam blanket thickness required by paragraph (m)(3)(A) is not maintained, the owner or operator of a facility shall measure the foam blanket thickness:

(i) Hourly for 15 consecutive operating days; and

(ii) Resume the measurement schedule pursuant to subparagraph (m)(3)(B).

~~The owner or operator shall monitor the foam blanket thickness across the surface of the chromium electroplating or chromic acid anodizing tank. The foam blanket thickness shall be maintained consistent with the~~

~~requirements established during the performance test to demonstrate compliance with the emission limitation. Foam thickness shall be measured hourly for 15 operating days, and daily thereafter as long as there is no violation of the foam thickness requirement. If a violation occurs, the measurement frequency shall return to hourly for 15 operating days, and daily thereafter.~~

(4) Polyballs or Similar Mechanical Fume Suppressants

The owner or operator of a facility shall visually inspect the Tier II or Tier III Hexavalent Chromium Tank ~~chromium electroplating or chromic acid anodizing tank~~ for coverage comparable to the coverage during the ~~performance source test daily~~ each operating day.

~~(h)~~ Inspection, and Operation Maintenance and Operation and Maintenance Plan Requirements

(1) Inspection and Maintenance

~~(A)~~ The Owners or operators of a hexavalent chromium electroplating and chromic acid anodizing operations facility using an add-on air pollution control device ~~or, add-on non-ventilated air pollution control device~~ shall comply with the applicable inspection and maintenance requirements listed in Table 4-1 of Appendix 4. ~~The owner or operator of an add-on air pollution control device custom designed for a specific operation shall develop operating and maintenance requirements. The requirements shall be submitted to the District for review and approval no later than 120 days after the effective date of this rule for custom systems existing before December 5, 2008, and prior to initial start-up for custom systems installed on or after December 5, 2008. The requirements and frequency of inspection must be sufficient to ensure compliance.~~

~~(B)~~ The owner or operator of a facility using an add-on air pollution control device or add-on non-ventilated air pollution control device custom designed for a specific operation shall develop operating and maintenance requirements for approval by the Executive Officer. The requirements and frequency of inspection shall be sufficient to ensure compliance.

Table 4
Summary of Inspection and Maintenance Requirements for Sources Using
Add-on Air Pollution Control Device(s)

| Control Technique/Equipment | Inspection and Maintenance Requirements | Frequency |
|----------------------------------|--|----------------------|
| Composite mesh pad (CMP) system. | 1. Visually inspect device to ensure that there is proper drainage, no unusual chromic acid buildup on the pads, and no evidence of chemical attack that affects the structural integrity of the device. | 1. Once per quarter. |
| | 2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist. | 2. Once per quarter. |

Table 4
Summary of Inspection and Maintenance Requirements for Sources Using
Add-on Air Pollution Control Device(s) (cont)

| Control Technique/Equipment | Inspection and Maintenance Requirements | Frequency |
|-----------------------------|--|--|
| | 3. Visually inspect ductwork from tank to the control device to ensure there are no leaks. 4. Perform washdown of the composite mesh pads in accordance with manufacturer's recommendations. | 3. Once per quarter. 4. Per manufacturer. |
| Packed bed scrubber (PBS) | 1. Visually inspect device to ensure there is proper drainage, no unusual chromic acid buildup on the packed beds, and no evidence of chemical attack that affects the structural integrity of the device. 2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist. 3. Same as number 3 above for CMP system. 4. Add fresh makeup water to the packed bed^A. | 1. Once per quarter. 2. Once per quarter. 3. Once per quarter. 4. Whenever makeup is added. |
| PBS/CMP system | 1. Same as for CMP system. 2. Same as for CMP system. | 1. Once per quarter. 2. Once per quarter. |
| | 3. Same as for CMP system. 4. Same as for CMP system | 3. Once per quarter. 4. Per manufacturer. |

^A ~~Horizontal packed bed scrubbers without continuous recirculation must add make up water to the top of the packed bed.~~

Table 4
Summary of Inspection and Maintenance Requirements for Sources Using
Add-on Air Pollution Control Device(s) (cont)

| Control Technique/Equipment | Inspection and Maintenance Requirements | Frequency |
|---|--|--|
| Fiber bed mist eliminator ^B | <ol style="list-style-type: none"> 1. Visually inspect fiber bed unit and prefiltering device to ensure there is proper drainage, no unusual chromic acid buildup in the units, and no evidence of chemical attack that affects the structural integrity of the devices. 2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks. 3. Perform washdown of fiber elements in accordance with manufacturer's recommendations. | <ol style="list-style-type: none"> 1. Once per quarter. 2. Once per quarter. 3. Per manufacturer. |
| High Efficiency Particulate Arrestors filter (HEPA) | <ol style="list-style-type: none"> 1. Look for changes in the pressure drop. 2. Replace HEPA filter. | <ol style="list-style-type: none"> 1. Once per week. 2. Per manufacturer's specifications or District's requirement. |
| Chromium Tank Covers | <ol style="list-style-type: none"> 1. Drain the air inlet (purge air) valves at the end of each day that the tank is in operation. 2. Visually inspect access door seals and membranes for integrity. 3. Drain the evacuation unit directly into the electroplating tank or into the rinse tanks (for recycle into the electroplating tank). | <ol style="list-style-type: none"> 1. Once per day. 2. Once per week. 3. Once per week. |

^B Inspection and maintenance requirements for the control device installed upstream of the fiber bed mist eliminator to prevent plugging do not apply as long as the inspection and maintenance requirements for the fiber bed unit are followed.

Table 4
Summary of Inspection and Maintenance Requirements for Sources Using
Add-on Air Pollution Control Device(s) (cont)

| Control Technique/Equipment | Inspection and Maintenance Requirements | Frequency |
|-----------------------------|---|---|
| | 4. Visually inspect membranes for perforations using a light source that adequately illuminates the membrane (e.g., Grainger model No. 6X971 Fluorescent Hand Lamp). 5. Visually inspect all clamps for proper operation; replace as needed. 6. Clean or replace filters on evacuation unit. 7. Visually inspect piping to, piping from, and body of evacuation unit to ensure there are no leaks and no evidence of chemical attack. 8. Replace access door seals, membrane evacuation unit filter, and purge air inlet check valves in accordance with the manufacturer's recommendations. | 4. Once per month. 5. Once per month. 6. Once per month. 7. Once per quarter. 8. Per manufacturer. |
| Pitot tube | Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check Pitot tube ends for damage. Replace Pitot tube if cracked or fatigued. | Once per quarter. |
| Ampere-hour meter | Install and maintain per manufacturer's specifications. | Per manufacturer. |

- (2) ~~Hard and decorative chromium electroplating, and chromic acid anodizing operations~~The owner or operator of a facility using chemical fume suppressants (i.e. wetting agent, foam) or mechanical fume suppressants (i.e., polyballs) shall comply with the applicable inspection and maintenance requirements in Table 4-4 of Appendix 4.
- (3) Beginning [90 Days After Date of Rule Adoption], the owner or operator of a facility operating a Tier II Hexavalent Chromium Tanks that are is not controlled by an add-on air pollution control device shall comply with the

applicable inspection and maintenance requirements in Table 4-3 of Appendix 4.

- (4) Beginning [90 Days After Date of Rule Adoption], the owner or operator of a facility operating a Tier I, Tier II, and Tier III Hexavalent Chromium Tank shall comply with the applicable inspection and maintenance requirements in Table 4-2 of Appendix 4.

Table 5
Summary of Inspection and Maintenance Requirements for Sources Using
Chemical or Mechanical Fume Suppressants

| Equipment | Inspection and Maintenance Requirement for Monitoring Equipment | Frequency |
|-------------------------------|--|------------------------------|
| Ampere-hour meter | Install and maintain per manufacturer's specifications. | Per manufacturer. |
| Stalagmometer/ Tensiometer | Calibrate and maintain per manufacturer's specifications. | Per manufacturer. |

(i) ~~Operation and Maintenance Plan Requirements~~

~~(4)(5)~~ Operation and Maintenance Plan

)

The owner or operator of a facility subject to the inspection and maintenance requirements of paragraphs ~~(h)(1) and (h)(2)(n)(1), (n)(2), (n)(3), or (n)(4)~~ shall prepare an operation and maintenance plan. For major sources, the plan shall be incorporated by reference into the source's Title V permit. The plan shall incorporate the inspection and maintenance requirements for that device or monitoring equipment, as identified in Tables ~~4-1, and 4-2, 4-3, and 4-4~~ 5 of Appendix 4, and shall include the following elements:

- (A) A standardized checklist to document the operation and maintenance of the source, the add-on air pollution control device, and the process and control system monitoring equipment; and
- (B) Procedures to be followed to ensure that equipment is properly maintained.

~~The owner or operator may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans, provided the alternative plans meet the requirements of this subdivision.~~

- (6) Notwithstanding the operation and maintenance plan required by paragraph (n)(5), the owner or operator of a facility may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans, provided the alternative plans meet the requirements of this subdivision.

~~(2)~~(7) Operation and Maintenance Plan Availability

)

The owner or operator of a facility shall keep the written operation and maintenance plan on record after it is developed, to be made available for inspection, upon request.

~~(3)~~(8) Operation and Maintenance Plan Modifications

)

Any changes made by the owner or operator of a facility should be documented in an addendum to the plan. In addition, the owner or operator of a facility shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, for a period of 5 years after each revision to the plan.

~~(4)~~ ~~Breakdown Provisions In Operation and Maintenance Plan~~

~~The operation and maintenance plan shall be revised as necessary to minimize breakdowns.~~

~~(89)~~ Amended Operation and Maintenance Plan

By [90 Days After Date of Rule Adoption], the facility's Operation and Maintenance Plan shall be revised and made available upon request to the Executive Officer to reflect the incorporation of the inspection and maintenance requirements for a device or monitoring equipment that is identified in Table 4-2 and Table 4-3 of Appendix 4 and shall include the elements required in subparagraphs (n)(5)(A) and (n)(5)(B).

~~(910)~~ Replacement of Ampere-Hour Meter

Prior to replacement of a continuous recording non-resettable ampere-hour meter, that is required under paragraph (d)(1), the owner or operator of a facility shall photograph the actual ampere-hour reading of:

(A) The ampere-hour meter being replaced; and

(B) The new ampere-hour meter immediately after installation.

~~(j0)~~ Recordkeeping

~~(1)~~ Inspection ~~Records~~ for ~~sSources~~ ~~uUsing an aAdd-on control~~ ~~aAir~~ ~~pPollution~~ ~~eControl~~ ~~dDevices~~ or Non-Ventilated Air Pollution Control Device.

The owner or operator of a facility shall maintain inspection records to document that the inspection and maintenance requirements of subdivision ~~(h)(n)~~ and Tables 4 and 5, and that the provisions of the operation and

maintenance plan required by subdivision ~~(i)~~(n) have been met. The record can take the form of a checklist and should identify:

- (A) ~~t~~The device inspected;
- (B) ~~t~~The date and time of inspection;
- (C) ~~a~~A brief description of the working condition of the device during the inspection;
- (D) ~~m~~Maintenance activities performed on the components of the air pollution control system (i.e. duct work replacement, filter pad replacement, fan replacement, etc.); and
- (E) ~~a~~Any actions taken to correct deficiencies found during the inspection.

- (2) Inspection Records for Sources Using Chemical ~~Fume Suppressants (i.e. wetting agent, foam)~~ or Mechanical Fume Suppressants (~~i.e., polyballs~~). The owner or operator of a facility shall maintain inspection records to document that the applicable inspection and maintenance requirements of paragraph ~~(h)(2)~~(n)(1), (n)(2), (n)(3), and (n)(4) and ~~Tables 4 and 5~~ have been met. The record can take the form of a checklist.

- (3) ~~Performance Source Test, Capture Efficiency, and Smoke Test Records~~
The owner or operator of a facility shall maintain ~~test reports and records documenting~~ the conditions and results of all performance source tests, capture efficiency tests, emission screenings, and smoke tests required by subdivision ~~(k)~~(e). The records shall include performance test results required to determine compliance with paragraph ~~(g)(1)~~(m)(1), including the pressure drop established during the performance source test to demonstrate compliance with the applicable emission limitation ~~for composite mesh pad (CMP), packed bed scrubber (PBS), and CMP/PBS, and a fiber bed mist eliminator and the inlet velocity pressure established during the performance test to demonstrate compliance with the emission limitation.~~

- (4) Monitoring Data Records
The owner or operator of a facility shall maintain records of continuously recorded ampere-hour data required by paragraph ~~(e)~~(d)(1) and monitoring data required by subdivision ~~(m)~~(g) ~~that are used to demonstrate compliance with the requirements of subdivision (e) and subdivision (d), if applicable, including the date and time the data are collected.~~

- (A) Cumulative Rectifier Usage Records

The owner or operator of a facility shall, on a monthly basis, record the actual cumulative rectifier usage expended during each month of the reporting period, and the total usage expended to date.

~~(B)~~ Pressure Drop

~~The owner or operator shall record the pressure drop once a week. The pressure drop shall be recorded daily beginning February 1, 2009.~~

~~(B)~~ Inlet Velocity Pressure and Air Flow Measurements

~~C)~~

The owner or operator of a facility shall record the ~~inlet velocity~~applicable pressures and velocities air flow as specified in Table 5 of subdivision (m) once a week. ~~The inlet velocity pressure shall be recorded daily beginning February 1, 2009.~~

~~(5)~~ Surface Tension

~~(D)~~

~~(i)(A)~~ The owner or operator of a facility shall record the surface tension pursuant to the requirements of paragraph (m)(2). ~~daily for 20 operating days, and weekly thereafter as long as there is no violation of the surface tension requirement. If the surface tension exceeds the respective value established in the list of certified chemical fume suppressants pursuant to subdivision (f), or a more stringent value specified in permit conditions or approved Compliance Plan conditions, the owner or operator shall again record the surface tension daily for 20 operating days, and weekly thereafter~~

For facilities operating under an approved alternative compliance method pursuant to ~~paragraph (d)(6)~~subdivision (i), and using ~~chemical fume suppressants as all or partial control of hexavalent chromium emissions, the owner or operator~~ of a facility shall record the surface tension of the electroplating or anodizing bath daily.

~~(E)~~ Mechanical Fume Suppressant and Foam Blankets

~~D)~~

(i) The owner or operator of a facility that is required to measure the using a foam blanket thickness pursuant to paragraph (m)(3) ~~to comply with the emission standards of subdivision (e) or (d)~~, shall record the foam thickness ~~hourly for 15~~

~~operating days, and daily thereafter as long as there is no violation of the foam thickness requirement. If a violation occurs, the measurement frequency shall return to hourly for 15 operating days, and daily thereafter.~~

- (ii) The owner or operator of a facility using polyballs or other mechanical fume suppressants to comply with the emission standards of subdivision ~~(e) or (d)~~(h) or (i), shall record the coverage of the electroplating or anodizing bath daily. Coverage shall be reported as a percentage of bath surface area.

~~(5)~~ Breakdown Records

~~The owner or operator shall maintain records of the occurrence, duration, and cause (if known) and action taken on each breakdown.~~

~~(6)~~(5) Records of Excesses

)

The owner or operator of a facility shall maintain records of exceedances of: the emission limitations in subdivisions ~~(e) and (d)~~(h) and (i), the parameter monitoring ~~parameter~~-values established under subdivision ~~(g)~~(m), or any site-specific operating parameters established for alternative equipment. The records shall include the date of the occurrence, the duration, cause (if known), and, where possible, the magnitude of any excess emissions.

- ~~(7)~~(6) The owner or operator of a facility shall maintain records demonstrating compliance with housekeeping practices and best management practices, as required by ~~paragraph (e)~~(4) subdivisions (f) and (g), including the dates on which specific activities were completed, and records showing that chromium or chromium-containing wastes have been stored, disposed of, recovered, or recycled using practices that do not lead to fugitive emissions~~dust~~.

~~(8)~~(7) Records of Fume Suppressant Additions

)

For sources using fume suppressants to comply with the standards, the owner or operator of a facility shall maintain records of the date, time, approximate volume, and product identification of the fume suppressants that are added to the electroplating or anodizing bath.

~~(9)~~(8) Records of Trivalent Bath Components

)

For sources complying with paragraph ~~(e)(14)(h)(3)~~ using trivalent chromium baths, the owner or operator of a facility shall maintain records of the bath components purchased, with the wetting agent clearly identified as a bath constituent contained in one of the components.

~~(10)~~ Records of Filter Purchase and Disposal

9)

For sources using add-on air pollution control devices to comply with the standards, the owner or operator of a facility shall retain purchase orders for filters and waste manifest records for filter disposal.

~~(11) New/Modified Source Review Information~~

~~The owner or operator shall maintain records supporting the notifications and reports required by the District's new source review provisions and/or subdivision (1).~~

~~(12)~~ Records Retention

0)

All records shall be maintained for five years, at least two years on site.

~~(k)~~ Reporting

~~(1) Performance Source Test Documentation~~

~~(A) Notification of Performance Source Test~~

At least 60 calendar days before the source test is scheduled to occur, the owner or operator of a facility shall notify the Executive Officer that a source test will be conducted.

~~(i) The owner or operator of a source shall notify the Executive Officer that a performance test shall be conducted at least 60 calendar days before the performance test is scheduled.~~

~~(ii) The provisions in clause (k)(1)(A)(i), above, do not apply if the performance test was conducted prior to July 24, 1997 and was approved by the Executive Officer and the U.S. EPA.~~

~~(B) Reports of Performance Source Test Results~~

The owner or operator of a facility shall report ~~performance source~~ test results to the Executive Officer. Reports of ~~performance source~~ test results shall be submitted no later than 90 calendar days following the completion of the required ~~performance source~~ test,

and shall be submitted as part of the notification of compliance status required by paragraphs ~~(k)(p)(2)~~ and ~~(p)(3)~~.

- (C) The content of ~~performance-source~~ test reports shall contain, at a minimum, the information identified in Appendix 1.

(2) Initial Compliance Status Report

An initial compliance status report is required each time that a source becomes subject to the requirements of this rule. The owner or operator of a facility shall submit to the Executive Officer an initial compliance status report, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with this rule.

(A) Initial Compliance Status Report Due Date

The initial compliance status report for existing facilities shall be submitted to the Executive Officer no later than April 24, 2008. New or modified facilities shall submit the initial compliance status report upon start-up.

- (B) The initial compliance status report shall contain, at a minimum, the information identified in Appendix 2.

(3) Ongoing Compliance Status and Emission Reports

The owner or operator of a facility shall submit a summary report to the Executive Officer to document the ongoing compliance status.

(A) Frequency of Ongoing Compliance Status and Emission Reports

The report shall be submitted each calendar year on or before February 1 for all sources and shall include information covering the preceding calendar year (January 1 through December 31).

- (B) The content of ongoing compliance status and emission reports shall, at a minimum, contain the information identified in Appendix 3.

(4) ~~Reports of Breakdowns~~ Notification of Incident

- (A) The owner or operator of a facility shall ~~report breakdowns as required by District Rule 430~~ notify the Executive Officer within four hours of the incident or within four hours from the time the owner or operator of a facility knew or reasonably should have known of, any failed smoke test, any failed source test, any exceedance of a permitted ampere-hour limit, or any malfunction of a non-resettable ampere-hour meter by calling 1-800-CUT SMOG. In the cases of emergencies that prevent the owner or operator of a facility from reporting all required information within the four hour limit, the

Executive Officer may extend the time for reporting the required information provided such owner or operator of a facility has notified the Executive Officer of the incident within the 24-hour limit. The notification shall include the following information:-

- (i) Date and time of the incident and when it was discovered;
- (ii) Specific location and equipment involved;
- (iii) Responsible party to contact for further information;
- (iv) Causes of the incident, to the extent known; and
- (v) Estimated time for repairs and correction.

(B) Within seven calendar days after a reported incident has been corrected, but no later than thirty calendar days from the initial date of the incident, unless an extension has been approved in writing by the Executive Officer, the owner or operator of a facility shall submit a written incident report to the Executive Officer that includes:

- (i) An identification of the equipment involved in causing, or suspected of having caused, or having been affected by the incident;
- (ii) The duration of the incident;
- (iii) The date of correction and information demonstrating that compliance is achieved;
- (iv) An identification of the types of emissions, if any, resulting from the incident;
- (v) A quantification of the excess emissions, if any, resulting from the incident and the basis used to quantify the emissions;
- (vi) Information substantiating that steps were immediately taken to correct the condition causing the incident, and to minimize the emissions, if any, resulting from the incident;
- (vii) Written verification that the facility is operating in compliance with SCAQMD Rule 1469. If the facility is not in compliance with SCAQMD Rule 1469, provide an approximate date the facility is expected to be in compliance;
- (viii) A description of the corrective measures undertaken and/or to be undertaken to avoid such an incident in the future; and
- (ix) Pictures of the equipment that failed, if available.

(5) Reports Associated with Trivalent Chromium Baths Exclusively Using a Chemical Fume Suppressant Containing a Wetting Agent

Owners or operators ~~with switching to~~ trivalent chromium baths exclusively using a ~~certified~~ chemical fume suppressant containing a wetting agent to comply with subparagraph ~~(e)(14)(A)(h)(3)(A)~~ are not subject to paragraphs ~~(p)(1) through (p)(3) of this subdivision~~, but shall instead submit the following a reports within 30 days of a change to the trivalent chromium electroplating process that includes:

~~(A) Sources Currently Using Trivalent Chromium~~

~~No later than November 24, 2007, the owner or operator of an existing facility shall submit a notification of compliance status that contains the information specified in (k)(5)(A)(i) through (iii). New and modified facilities shall submit this information within 30 days after the effective date of this rule.~~

- ~~(i) The name and address of each source subject to this paragraph;~~
- ~~(ii) A statement that a trivalent chromium process that incorporates a wetting agent will be used to comply; and~~
- ~~(iii) The list of bath components that comprise the trivalent chromium bath, with the wetting agent clearly identified.~~

~~(B) Sources Changing to Trivalent Chromium~~

~~Within 30 days of a change to the trivalent chromium electroplating process, a report that includes:~~

- (A) ~~(i)~~ A description of the manner in which the process has been changed and the emission limitation, if any, now applicable to the source; and
- (B) ~~(ii)~~ The notification and reporting requirements of paragraphs ~~(p)(1), (p)(2), and (p)(3) of this subdivision~~, if the ~~source~~ facility ~~complies~~ complies with the emission limitation option, or paragraph ~~(p)(5) of this subdivision~~, if the source uses a wetting agent to comply. The report shall be submitted in accordance with the schedules identified in those paragraphs.

(6) Adjustments to the Timeline for Submittal and Format of Reports

The Executive Officer may adjust the timeline for submittal of periodic reports, allow consolidation of multiple reports into a single report, establish

a common schedule for submittal of reports, or accept reports prepared to comply with other state or local requirements. Adjustments shall provide the same information and shall not alter the overall frequency of reporting.

~~(l)~~ ~~New and Modified Sources~~

~~(1)~~ ~~Notification of Construction~~

~~After the effective date of this rule no person may construct or modify a source, such that it becomes a source subject to this section, without submitting a notification of construction or modification to the Executive Officer and receiving approval in advance to construct or modify the source. The contents of the Notification of Construction shall include information as listed in Appendix 4.~~

~~(2)~~ ~~New Source Review Rules~~

~~In lieu of complying with the requirements in paragraph (1)(1) of this subdivision, a facility may fulfill these requirements by complying with the District's new source review rule or policy, provided similar information is obtained.~~

~~(mq)~~ Procedure for Establishing Alternative Requirements

(1) Request Approval of an Alternative Requirement

Any person may request approval of an alternative requirement. The person seeking such approval shall submit the proposed alternative requirement to the Executive Officer for approval. The request shall include the proposed alternative requirement, the reason for requesting the alternative requirement, and information demonstrating that the criteria for approval identified in Appendix 6 is met.

(2) Approval of an Alternative Requirement

The Executive Officer may approve an alternative requirement if it determines that application of the alternative requirement meets the criteria for approval identified in Appendix 6 and the Executive Officer has submitted the proposed alternative requirements and has received concurrence from the applicable concurring agencies identified in Appendix 6.

(3) Approval Criteria

Nothing in this subdivision prohibits the Executive Officer from establishing approval criteria more stringent than that required in Appendix 6.

(4) Alternatives Already Approved by U.S. EPA

Waivers for alternatives already approved by the U.S. EPA prior to October 24, 2007 shall remain in effect until the effective dates of the specified requirements become effective.

~~(nr)~~ Exemptions

~~(1) This rule shall not apply to process tanks associated with a chromium electroplating or chromic acid anodizing process in which neither chromium electroplating nor chromic acid anodizing is taking place. Examples of such tanks include, but are not limited to, rinse tanks, etching tanks, and cleaning tanks. Tanks that contain a chromium solution in which no electrolytic process occurs, are not subject to this rule. An example of such a tank is a chromium conversion coating tank where no electrical current is applied.~~

~~(2)(1)~~ The requirements of subdivisions ~~(g), (h), and (i)~~(m) and (n) do not apply to decorative chromium electroplating tanks using a trivalent chromium bath with a wetting agent.

~~(3) The requirements of paragraphs (e)(8) through (e)(14), (d)(5) and (d)(6), and subdivision (i) do not apply during periods of equipment breakdown, provided the provisions of District Rule 430 are met, notwithstanding subparagraph (b)(3)(B) of Rule 430.~~

(2) The requirements of paragraphs (f)(6), (g)(4), and (g)(5) do not apply to buffing, grinding, or polishing operations conducted under a continuous flood of metal removal fluid.

~~(o)~~ Title V Permit Requirements

~~The owner or operator of a major source facility subject to the requirements of this section is required to obtain a Title V permit from the District in accordance with the procedures set forth in District Regulation XXX.~~

~~(ps)~~ Rule 1402 Inventory Requirements

The owner or operator of ~~chromium electroplating or chromic acid anodizing tanks at a facility~~ that is in compliance with this rule will not be required to submit an emission inventory to the Executive Officer for emissions of toxic compounds subject to this rule, pursuant to ~~subparagraph (n)(1)(B)~~paragraph (p)(1) of Rule 1402 - Control of Toxic Air Contaminants from Existing Sources.

~~(q)~~ Chromium Electroplating or Chromic Acid Anodizing Kits Requirements

- (1) ~~Except as provided in paragraph (q)(2), no person shall sell, supply, offer for sale, or manufacture for sale in the District, any chromium electroplating or chromic acid anodizing kit.~~
- (2) ~~The provisions of paragraph (q)(1) do not apply to any person that sells, supplies, offers for sale, or manufactures for sale in the District a chromium electroplating or chromic acid anodizing kit to the owner or operator of a permitted facility at which chromium electroplating or chromic acid anodizing is performed.~~
- (3) ~~No person shall use a chromium electroplating or chromic acid anodizing kit to perform chromium electroplating or chromic acid anodizing unless these activities are performed at a permitted facility that complies with the requirements of this rule.~~
- (4) ~~For the purposes of this section, "chromium electroplating or chromic acid anodizing kit" means chemicals and associated equipment for conducting chromium electroplating or chromic acid anodizing including, but not limited to, internal and external tank components.~~

(t) Conditional Requirements for Permanent Total Enclosure

- (1) The owner or operator of a facility shall install a Permanent Total Enclosure for a Tier III Hexavalent Chromium Tank with a combined area of all enclosure openings that does not exceed 3.5%, as specified in paragraph (e)(1) if:
 - (A) More than one non-passing source test as required in paragraph (k)(1) occurs within a consecutive 48-month period; or
 - (B) The owner or operator of a facility failed to meet the requirements to shutdownshut down a tank controlled by an add-on air pollution control device specified in subparagraphs (m)(1)(D) or (m)(1)(F):
 - (i) More than once within a consecutive 48-month period for a facility that is located more than 1,000 feet from a sensitive receptor; or
 - (ii) Once for a facility that is located less than or equal to 1,000 feet from a sensitive receptor.
- (2) Within 30 days of the date of notification by the Executive Officer that a Permanent Total Enclosure is required, the owner or operator of facility may submit a written report to the Executive Officer providing evidence that the

installation of a Permanent Total Enclosure is not warranted based on the following criteria:

- (A) The incidents of non-compliance specified in paragraph (t)(1) did not occur; or
 - (B) The owner or operator of a facility resolved the incidents of non-compliance specified in paragraph (t)(1) in a timely manner; and
 - (C) The owner or operator of a facility implemented specific measures to minimize hexavalent chromium emissions.
- (3) The Executive Officer shall use the information provided by the owner or operator of a facility to determine if a permanent total enclosure is required and will notify the owner or operator of a facility within 90 days of receiving the written report.
- (4) The owner or operator of a facility required to install a permanent total enclosure pursuant to paragraph (t) shall vent the permanent total enclosure to an add-on air pollution control device that is fitted with HEPA filters, or other filter media that is rated by the manufacturer to be equally or more effective; and designed in a manner that does not conflict with requirements or guidelines set forth by OSHA or CAL-OSHA regarding worker safety, or the National Fire Protection Association regarding safety.
- (5) The owner or operator of a facility required to install a permanent total enclosure pursuant to subdivision (t) shall install the permanent total enclosure no later than 12 months after the SCAQMD Permit to Construct is issued by the Executive Officer. The owner or operator of a facility shall submit complete SCAQMD permit applications for the permanent total enclosure to the Executive Officer no later than:
- (A) 180 days after notification by the Executive Officer if the property line of the facility is within 500 feet of the property line of any sensitive receptor, school, or early education center.
 - (B) 270 days after notification by the Executive Officer for all other facilities.

(u) Hexavalent Chromium Phase-Out Plan

- (1) The owner or operator of a facility shall not be subject to the requirements of paragraph (h)(4) to vent a Tier III Hexavalent Chromium Tank, existing on or before [Date of Rule Adoption], to an add-on air pollution control device, if the owner or operator of a facility submits a Hexavalent Chromium

Phase-Out Plan to the Executive Officer for review and approval no later than [90 Days after Date of Rule Adoption] containing the following:

- (A) A commitment that the facility will permanently eliminate or reduce hexavalent chromium concentrations within the subject tank to below the concentration to be considered a Tier II or Tier III Hexavalent Chromium Tank;
 - (B) A description of the method by which hexavalent chromium concentrations will be permanently eliminated or reduced from the subject tank(s) and the date of final completion, not to exceed two years from approval of the Hexavalent Chromium Phase-Out Plan;
 - (C) A list of milestones, including any testing required to meet specifications or quality assurance requirements, that are necessary to occur in order to allow the facility to reduce or eliminate hexavalent chromium by the completion date;
 - (D) Completion date for each of the milestones listed in subparagraph (u)(1)(C); and
 - (E) A list of all control measures that will be implemented for the subject tank(s), including dates of implementation, until the hexavalent chromium-concentration is eliminated or reduced as stated.
- (2) The Hexavalent Chromium Phase-Out Plan shall be subject to the fees specified in Rule 306.
- (3) The Executive Officer shall notify the owner or operator of a facility in writing whether the Hexavalent Chromium Phase-Out Plan is approved or disapproved. Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in paragraph (u)(1). If the Hexavalent Chromium Phase-Out Plan is disapproved, the owner or operator of a facility shall resubmit the plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the Hexavalent Chromium Phase-Out Plan. The resubmitted Hexavalent Chromium Phase-Out Plan shall include any information necessary to address deficiencies identified in the disapproval letter.
- (4) Upon approval of the Hexavalent Chromium Phase-Out Plan, the owner or operator of a facility shall implement the approved plan and shall submit a progress report to the Executive Officer by the first day of every calendar quarter indicating the increments of progress for the previous quarter, or

submit according to an alternative schedule as specified in the approved plan.

- (5) The Executive Officer shall notify the owner or operator of a facility to submit complete SCAQMD permit applications for an add-on air pollution control device to comply with subdivision (h) if:
- (A) The owner or operator does not eliminate or reduce hexavalent chromium by the final completion date in the approved Hexavalent Chromium Phase-Out Plan;
 - (B) The Executive Officer denies a resubmitted Hexavalent Chromium Phase-Out Plan; or
 - (C) The owner or operator fails to resubmit a Hexavalent Chromium Phase-Out Plan as required under paragraph (u)(3).
- (6) The owner or operator shall install the add-on air pollution control device for the permit application submitted pursuant to paragraph (u)(5) no later than 180 days after a SCAQMD Permit to Construct has been issued.

Appendix 1 – Content of ~~Performance~~Source Test Reports.

~~Performance~~Source test reports shall contain, at a minimum, the following information:

1. A brief process description;
2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results in milligrams/ampere-hour;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test, preparation of standards, and calibration procedures;
7. Original data for field sampling and field and laboratory analyses;
8. Documentation of calculations;~~and~~
9. Applicable Industrial Ventilation Limits;
10. Collection slot velocities (if applicable);
11. Measured static, differential, or volumetric flow rate at the push manifold, collection manifold, across each stage of the control device, and exhaust stack (if applicable); and
912. Any other information required by the test method.

~~Note: Test reports consistent with the provisions of ARB Method 425 will fulfill the above performance test report content requirement.~~

Appendix 2 – Content of Initial Compliance Status Reports.

Initial compliance status reports shall contain, at a minimum, the following information:

1. Facility name, SCAQMD ID number, facility address, owner/ and operator name, and telephone number;
2. The distance of the facility to the property line of the nearest commercial/industrial building and sensitive receptor using measurement methods provided in ~~subparagraph (c)(11)(B)~~ paragraph (h)(2);
3. Sensitive receptor locations, if they are located within one-quarter of a mile from the center of the facility;
4. Building parameters
 - Stack height in feet (point sources); or
 - Building area in square feet (volume sources).
5. Maximum potential rectifier capacity per tank and facility maximum operating schedule (more than or less than or equal to 12 hours per day);
6. The applicable emission limitation and the methods that were used to determine compliance with this limitation;
7. Facility-wide emissions ~~established under paragraph (d)(4)~~, if applicable;
8. If a performance source test is required, the test report documenting the results of the performance source test, which contains the elements listed in Appendix 1;
9. If an initial smoke test demonstrating the capture efficiency of ~~a ventilation system~~ the add-on air pollution control device or add-on non-ventilated air pollution control device is required, the test report documenting the results which contain the elements listed in Appendix 89;
10. The type and quantity, in pounds, of hazardous air pollutants emitted by the source. ~~(If the owner or operator is subject to the construction and modification provisions of subdivision (l) and had previously submitted emission estimates, the owner or operator shall state that this report corrects or verifies the previous estimate.);~~
11. For each monitored parameter for which a compliant value is to be established under subdivision (m)~~(g)~~, the specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit;

12. The methods that will be used to determine continuous compliance, including a description of monitoring and reporting requirements, if methods differ from those identified in this section;
13. A description of the air pollution control technique for each emission point;
14. A statement that the owner or operator of a facility has completed and has on file the operation and maintenance plan as required by subdivision ~~(n)(i)~~;
15. The actual cumulative ampere-hour usage expended during the preceding calendar year, if operation occurred;
16. Information on calculations for the building enclosure envelope pursuant to paragraph (e)(1), including locations and dimensions of openings that are counted towards the applicable building envelope allowance;
167. A statement that the owner or operator of a facility, or personnel designated by the owner or operator of a facility, has completed a ~~District~~SCAQMD-approved training program pursuant to ~~paragraph (e)(7)~~subdivision (j); and
178. A statement by the owner or operator of a facility as to whether the source has complied with the provisions of this section.

Appendix 3 – Content of Ongoing Compliance Status and Emission Reports.

Ongoing compliance status and emission reports shall, at a minimum, contain the following information:

1. The company name and address of the source;
2. An identification of the operating parameter that is monitored for compliance determination, as required by subdivision ~~(m)~~(g);
3. The relevant emission limitation for the source, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of initial compliance status required by Appendix 2;
4. The beginning and ending dates of the calendar year for the reporting period;
5. A description of the type of process performed in the source;
6. The actual cumulative rectifier usage expended during the calendar year of the reporting period, on a month-by-month basis, if the source is a hard or decorative chromium electroplating tank or chromic acid anodizing tank;
7. Updated facility-wide emissions—~~established under paragraph (d)(4)~~, if applicable;
8. Hexavalent chromium and trivalent chromium emissions data in grams per year for the reporting period;
9. Sensitive receptor distances, if they are located within ¼ of mile from the center of the facility and facility maximum operating schedule (more than or less than or equal to 12 hours per day), if changed since submittal of the initial compliance status report or subsequent ongoing compliance status and emission reports. Sensitive receptor distances shall be measured using methods provided in paragraph (h)(2)-(e)(11)(B);
10. A summary of any excess emissions or exceeded monitoring parameters as identified in the records required by paragraph ~~(j)~~(6);
11. A certification by a responsible official that the inspection and maintenance requirements in subdivision ~~(n)~~(h) were followed in accordance with the operation and maintenance plan for the source;
12. If the operation and maintenance plan required by subdivision ~~(n)~~(i) was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emissions and/or monitoring parameter excesses are believed to have occurred, and a copy of the record(s) required by paragraph ~~(o)~~(1) documenting that the operation and maintenance plan was not followed;

13. If applicable, results of periodic smoke tests demonstrating capture efficiency of ~~ventilation system(s)~~an add-on air pollution control device or add-on non-ventilated air pollution control device conducted during the reporting period;
14. A description of any changes in monitoring, processes, or controls since the last reporting period;
15. A statement that the owner or operator of a facility, or personnel designated by the owner or operator of a facility has, within the last 2 years, completed a ~~District~~SCAQMD-approved training program pursuant to ~~paragraph (e)(7)~~subdivision (j);
16. Add-on air pollution ventilation measurements conducted during the most recent successful SCAQMD approved source test that include:
 - (A) The velocity of each collection slot, including the velocity values that would be 95% and 90% of the source-tested value.
 - (B) For push-pull systems, the pressure of each push air manifold, including the pressure values that would be 110%, 105%, 95%, and 90% of the source-tested value;
17. A summary of any pollution prevention measures that the facility has implemented that eliminates or reduces the use of hexavalent chromium in the chromium electroplating or chromic acid anodizing process an associated process tanks.
18. Updated information on calculations for the building enclosure envelope pursuant to paragraph (e)(1), including locations and dimensions of openings that are counted towards the applicable building envelope allowance.
169. The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
1720. The date of the report.

~~Appendix 4—Notification of Construction Reports.~~

~~Notification of Construction reports shall contain the following information:~~

- ~~(A) The owner or operator's name, title, and address;~~
- ~~(B) The address (i.e., physical location) or proposed address of the source if different from the owner's or operator's;~~
- ~~(C) A notification of intention to construct a new source or make any physical or operational changes to a source that may meet or has been determined to meet the criteria for a modification;~~
- ~~(D) The expected commencement and completion dates of the construction or modification;~~
- ~~(E) The anticipated date of (initial) startup of the source;~~
- ~~(F) The type of process operation to be performed (hard or decorative chromium electroplating, or chromic acid anodizing);~~
- ~~(G) A description of the air pollution control technique to be used to control emissions, such as preliminary design drawings and design capacity if an add-on air pollution control device is used; and~~
- ~~(H) An estimate of emissions from the source based on engineering calculations and vendor information on control device efficiency, expressed in units consistent with the emission limits of this subpart. Calculations of emission estimates should be in sufficient detail to permit assessment of the validity of the calculations.~~

~~Note: A facility can fulfill these report content requirements by complying with the District's new source review rule or policy, provided similar information is obtained.~~

Appendix 4 – Summary of Inspection and Maintenance Requirements

Table 4-1:
Summary of Inspection and Maintenance Requirements for Sources Using Add-on
Air Pollution Control Device(s) or Add-On Non-Ventilated Air Pollution Control
Device(s)

| <u>Control Technique/Equipment</u> | <u>Inspection and Maintenance Requirements</u> | <u>Frequency</u> |
|---|---|-------------------------------------|
| <u>Composite mesh-pad (CMP) system.</u> | <u>1. Visually inspect device to ensure that there is proper drainage, no unusual chromic acid buildup on the pads, and no evidence of chemical attack that affects the structural integrity of the device.</u> | <u>1. Once per quarter.</u> |
| | <u>2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.</u> | <u>2. Once per quarter.</u> |
| | <u>3. Visually inspect ductwork from tank to the control device to ensure there are no leaks.</u> | <u>3. Once per quarter.</u> |
| | <u>4. Perform washdown of the composite mesh-pads in accordance with manufacturer's recommendations.</u> | <u>4. Per manufacturer.</u> |
| <u>Packed-bed scrubber (PBS)</u> | <u>1. Visually inspect device to ensure there is proper drainage, no unusual chromic acid buildup on the packed-beds, and no evidence of chemical attack that affects the structural integrity of the device.</u> | <u>1. Once per quarter.</u> |
| | <u>2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist.</u> | <u>2. Once per quarter.</u> |
| | <u>3. Same as number 3 above for CMP system.</u> | <u>3. Once per quarter.</u> |
| | <u>4. Add fresh makeup water to the packed-bed^A.</u> | <u>4. Whenever makeup is added.</u> |

^A Horizontal packed-bed scrubbers without continuous recirculation must add make-up water to the top of the packed-bed.

Table 4-1:
Summary of Inspection and Maintenance Requirements for Sources Using Add-on
Air Pollution Control Device(s) or Add-On Non-Ventilated Air Pollution Control
Device(s) (cont)

| <u>Control Technique/Equipment</u> | <u>Inspection and Maintenance Requirements</u> | <u>Frequency</u> |
|--|---|--|
| <u>PBS/CMP system</u> | <ol style="list-style-type: none"> <u>1. Same as for CMP system.</u> <u>2. Same as for CMP system.</u> | <ol style="list-style-type: none"> <u>1. Once per quarter.</u> <u>2. Once per quarter.</u> |
| | <ol style="list-style-type: none"> <u>3. Same as for CMP system.</u> <u>4. Same as for CMP system</u> | <ol style="list-style-type: none"> <u>3. Once per quarter.</u> <u>4. Per manufacturer.</u> |
| <u>Fiber-bed mist eliminator^B</u> | <ol style="list-style-type: none"> <u>1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no unusual chromic acid buildup in the units, and no evidence of chemical attack that affects the structural integrity of the devices.</u> <u>2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks.</u> <u>3. Perform washdown of fiber elements in accordance with manufacturer's recommendations.</u> | <ol style="list-style-type: none"> <u>1. Once per quarter.</u> <u>2. Once per quarter.</u> <u>3. Per manufacturer.</u> |
| <u>High Efficiency Particulate Arrestors filter (HEPA)</u> | <ol style="list-style-type: none"> <u>1. Look for changes in the pressure drop.</u> <u>2. Replace HEPA filter.</u> | <ol style="list-style-type: none"> <u>1. Once per week.</u> <u>2. Per manufacturer's specifications or SCAQMD's requirement.</u> |

^B Inspection and maintenance requirements for the control device installed upstream of the fiber-bed mist eliminator to prevent plugging do not apply as long as the inspection and maintenance requirements for the fiber-bed unit are followed.

Table 4-1:
Summary of Inspection and Maintenance Requirements for Sources Using Add-on
Air Pollution Control Device(s) or Add-On Non-Ventilated Air Pollution Control
Device(s) (cont)

| <u>Control Technique/Equipment</u> | <u>Inspection and Maintenance Requirements</u> | <u>Frequency</u> |
|---|---|--|
| <u>Chromium Tank Covers</u> | <ol style="list-style-type: none"> <u>1. Drain the air-inlet (purge air) valves at the end of each day that the tank is in operation.</u> <u>2. Visually inspect access door seals and membranes for integrity.</u> <u>3. Drain the evacuation unit directly into the electroplating tank or into the rinse tanks (for recycle into the electroplating tank).</u> <u>4. Visually inspect membranes for perforations using a light source that adequately illuminates the membrane (e.g., Grainger model No. 6X971 Fluorescent Hand Lamp).</u> <u>5. Visually inspect all clamps for proper operation; replace as needed.</u> <u>6. Clean or replace filters on evacuation unit.</u> <u>7. Visually inspect piping to, piping from, and body of evacuation unit to ensure there are no leaks and no evidence of chemical attack.</u> <u>8. Replace access door seals, membrane evacuation unit filter, and purge air inlet check valves in accordance with the manufacturer's recommendations.</u> | <ol style="list-style-type: none"> <u>1. Once per day.</u> <u>2. Once per week.</u> <u>3. Once per week.</u> <u>4. Once per month.</u> <u>5. Once per month.</u> <u>6. Once per month.</u> <u>7. Once per quarter.</u> <u>8. Per manufacturer.</u> |
| <u>Pitot tube</u> | <u>Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check Pitot tube ends for damage. Replace Pitot tube if cracked or fatigued.</u> | <u>Once per quarter.</u> |
| <u>Ampere-hour meter</u> | <u>Install and maintain per manufacturer's specifications.</u> | <u>Per manufacturer.</u> |

Table 4-2:
Additional Inspection and Maintenance Requirements for Tier I, II, and III
Hexavalent Chromium Tank(s)

| <u>Control Technique/Equipment</u> | <u>Inspection and Maintenance Requirements</u> | <u>Frequency</u> |
|--|--|--------------------------------|
| <u>Temperature Gauge</u> | <u>1. Install and maintain per manufacturer's specification at each Tier I, II, and III Hexavalent Chromium Tank.</u> | <u>1. Per manufacturer.</u> |
| | <u>2. Calibrated or confirmed to be accurate.</u> | <u>2. Once per year.</u> |
| <u>Collection Slots and Push Air Manifolds for Push-Pull Systems</u> | <u>1. Visually inspect slots and push air manifolds to ensure that there are no obstructions or clogs.</u> | <u>1. Once per week.</u> |
| | <u>2. Clean slots or push air manifolds.</u> | <u>2. Once every 180 days.</u> |
| | <u>3. Measure slot velocity of each slot and pressure at each push air manifold using a hot-wire anemometer, vein anemometer, or approved device</u> | <u>3. Once every 180 days.</u> |
| <u>Air Flow Gauges</u> | <u>Install and maintain per manufacturer's specifications.</u> | <u>Per manufacturer</u> |

Table 4-3**Summary of Inspection and Maintenance Requirements for Sources Not Using Add-on Air Pollution Control Devices to Control Tier II Hexavalent Chromium Tank(s)**

| <u>Equipment</u> | <u>Inspection and Maintenance Requirement for Monitoring Equipment</u> | <u>Frequency</u> |
|--------------------------------|---|-----------------------------|
| <u>Temperature Data Logger</u> | <u>1. Install and maintain per manufacturer's specification at each Tier II Hexavalent Chromium Tank.</u> | <u>1. Per manufacturer.</u> |
| | <u>2. Calibrated or confirmed to be accurate.</u> | <u>2. Per manufacturer.</u> |

Table 4-4**Summary of Inspection and Maintenance Requirements for Sources Using Chemical or Mechanical Fume Suppressants**

| <u>Equipment</u> | <u>Inspection and Maintenance Requirement for Monitoring Equipment</u> | <u>Frequency</u> |
|---------------------------------------|---|--------------------------|
| <u>Ampere-hour meter</u> | <u>Install and maintain per manufacturer's specifications.</u> | <u>Per manufacturer.</u> |
| <u>Stalagmometer/ Tensiometer</u> | <u>Calibrate and maintain per manufacturer's specifications.</u> | <u>Per manufacturer.</u> |

Appendix 5 – Smoke Test for ~~Chromium Tank Covers~~Add-on Non-Ventilated Air Pollution Control Device

SMOKE TEST TO VERIFY THE SEAL INTEGRITY OF COVERS DESIGNED TO REDUCE CHROMIUM EMISSIONS FROM ~~ELECTROPLATING AND ANODIZING~~ TIER II AND TIER III HEXAVALENT CHROMIUM TANKS

1. Applicability and Principle
 - 1.1 Applicability. This ~~alternative~~ method is applicable to all ~~hard-chromium electroplating and anodizing operations~~ Tier III Hexavalent Chromium Tank where a chromium tank cover or add-on non-ventilated air pollution control device is used on the tank for reducing chromium emissions.
 - 1.2 Principle. During ~~chromium electroplating or anodizing~~ electrolytic operations, ~~gas bubbles of hydrogen and oxygen gas generated during the process rise to the surface of the tank liquid and burst.~~ Non-electrolytic tanks that are either heated or air sparged generate bubbles that rise to the surface. Upon bursting, tiny droplets of chromic acid (chromium mist) or hexavalent chromium laden become entrained in the air above the tank. Because the chromium tank cover completely encloses the air above the tank, the chromium mist either falls back into the solution because of gravity or collects on the inside walls of the chromium tank cover and runs back into the solution. A semi-permeable membrane allows passage of the hydrogen and oxygen out of the chromium tank cover. A ~~lit~~ smoke device is placed inside the chromium tank cover to detect leaks at the membrane, joints, or seals.
2. Apparatus
 - 2.1 Smoke device. Adequate to generate 500 to 1000 ft³ of smoke/20 ft² of tank surface area (~~e.g., Model #1A=15 SECONDS from Superior Signal, New York~~).
 - 2.2 Small container. To hold the smoke device.
3. Procedure

Place the small container on a stable and flat area at center of the chromium tank cover (you can use a board and place it on the buss bars). Place the smoke device inside the container. After ~~lighting~~ activating the smoke device, quickly close the access door to avoid smoke from escaping. Let smoke device ~~completely burn; fill~~ the entire space under the chromium tank cover will now be filled with the smoke. ~~Observe for~~ An acceptable smoke test shall demonstrate no leaks of smoke from each seal, joint, and membrane of the chromium tank cover. Record these observations including the locations and a qualitative assessment of any leaks of smoke.

When all seals, joints, and membranes have been observed, evacuate the unit to remove the smoke from the chromium tank cover.

Appendix 6 – Approval of Alternatives for Specific Requirements

| Section | Requirement | Description of Authority | Approving Agency | Concurring Agency |
|-----------------------------------|---|---|---|--|
| (a) (b) | Applicability | Assisting an owner or operator <u>of a facility</u> in determining whether a facility is subject to the ATCM <u>rule</u> | District <u>SCA</u> <u>QMD</u> | |
| (e) (h) | Standards | Approving alternative standards | District <u>SCA</u> <u>QMD</u> | U.S. EPA |
| (e)(1) (k)(<u>1</u>) | Performance Test Requirement | Waiving a performance test requirement | District <u>SCA</u> <u>QMD</u> | |
| (e)(2) (k)(<u>1</u>) | Use of Existing Performance Tests | Approving the use of existing performance test results to demonstrate compliance, based on the “Description of the Technical Review Protocol for Performance Tests of California Chrome Plating Sources” (see Attachment 2 of the July 10, 1998 memorandum from John S. Seitz entitled, “Delegation of 40 CFR Part 63 General Provisions Authorities to State and Local Air Pollution Control Agencies.”) | District <u>SCA</u> <u>QMD</u> | |
| (e)(3) (k)(<u>2</u>) | Test Method | Approving site-specific alternatives to test methods | District <u>SCA</u> <u>QMD</u> for minor ¹ or intermediate ² changes | U.S. EPA for major ³ changes, and ARB |
| (e)(4) (k)(<u>4</u>) | Pre-Test Protocol | Approving pre-test protocols | District <u>SCA</u> <u>QMD</u> | |
| (e)(5) (k)(<u>5</u>) | Test All Emission Points | Waiving the requirement to test all emission points | District <u>SCA</u> <u>QMD</u> | |
| (e) (m) | Parameter Monitoring | Approving site-specific changes in monitoring methodology | District <u>SCA</u> <u>QMD</u> for minor ¹ or intermediate ⁴ changes | U.S. EPA for major ³ changes |
| (h) (n) | Inspection and Maintenance Requirements | Approving site-specific changes to inspection and maintenance requirements | District <u>SCA</u> <u>QMD</u> | |
| (i) (n) | Operation and Maintenance Plans | Approving or requiring site-specific changes to operation and maintenance plans | District <u>SCA</u> <u>QMD</u> | |

| Section | Requirement | Description of Authority | Approving Agency | Concurring Agency |
|--|----------------------|---|--------------------------------|--|
| (j)(1)-(10)(o)(1) - (o)(11) | Recordkeeping | Waiving or altering recordkeeping requirements | District SCA QMD | U.S. EPA for major ³ changes |
| (j)(12)(o)(10) | Retention of Records | Waiving or altering the requirement to retain records for 5 years | District SCA QMD | U.S. EPA for major ³ changes |
| (k)(p) | Reporting | Waiving or altering reporting requirements | District SCA QMD | U.S. EPA ⁵ for major ³ changes |

- 1 Minor change to a test method or monitoring is a modification to a federally enforceable test method or monitoring that (a) does not decrease the stringency of the emission limitation or standard or the compliance and enforcement measures for the relevant standard; (b) has no national significance (e.g., does not affect implementation of the application regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the test method or monitoring requirement); and (c) is site specific, made to reflect or accommodate the operation characteristics, physical constraints, or safety concerns of an affected source.
- 2 Intermediate change to a test method is a within-method modification to a federally enforceable test method involving “proven technology” (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Intermediate changes are not approvable if they decrease the stringency of the standard.
- 3 Major change to a test method or monitoring is a modification to a federally enforceable test method or federally required monitoring that uses unproven technology or procedures or is an entirely new method (sometimes necessary when the required test method is unsuitable).
- 4 Intermediate change to monitoring is a modification to federally required monitoring involving “proven technology” (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the compliance and enforcement measures for the relevant standard.
- 5 U.S. EPA concurrence is not needed for adjustments made according to paragraph ~~(kp)~~(6).

**~~Appendix 7—Distance-Adjusted Ampere-Hour and Annual Emissions Limits
For Facilities Located More Than 25 Meters from a Residence or Sensitive
Receptor.~~**

~~Facilities subject to the interim requirements of paragraph (c)(9) or complying with the interim facility wide mass emission rate in paragraph (d)(4) may adjust the ampere hour or annual emission limits according to actual receptor distance. Ampere hour limits refer to actual consumption of electrical current from all hexavalent chromium electroplating and chromic acid anodizing operations at a facility.~~

~~Use the following tables to determine the appropriate ampere hours or annual emissions for compliance with the interim emission limitations in paragraph (c)(9), or compliance with the interim facility wide mass emission rate in paragraph (d)(4) according to the distance to the nearest receptor. Receptor distance is measured as follows:~~

**Table 7-1
Measuring Receptor Distance**

| Source Type | Measure From: | Measure To: |
|----------------------------------|----------------------|--------------------------------------|
| Point Source, Single Stack | Stack | Property Line of Nearest Receptor |
| Point Source, Multiple Stacks | Centroid of Stacks | Property Line of Nearest Receptor |
| Volume Source No Stack | Center of Building | Property Line of Nearest Receptor |

Table 7-2
Hexavalent Chromium Electroplating and Chromic Acid Anodizing
Operation Vented to Air Pollution Control Device(s) Normally Operating 12
Hours Per Day or Less

| Distance to Nearest Receptor (m) | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Ampere Hours/yr (x10⁶) | 1.60 | 1.74 | 1.88 | 2.03 | 2.22 | 2.44 | 2.69 | 2.98 |
| Annual Emissions (lbs/yr) | 0.036 | 0.039 | 0.042 | 0.045 | 0.049 | 0.054 | 0.060 | 0.066 |
| Distance to Nearest Receptor (m) | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| Ampere Hours/yr (x10⁶) | 3.36 | 3.84 | 4.48 | 4.87 | 5.33 | 5.88 | 6.56 | 7.42 |
| Annual Emissions (lbs/yr) | 0.074 | 0.085 | 0.099 | 0.108 | 0.118 | 0.130 | 0.145 | 0.164 |

Table 7-3
Any Hexavalent Chromium Electroplating and Chromic Acid Anodizing
Operation Vented to Air Pollution Control Device(s) Normally Operating
More Than 12 Hours Per Day

| Distance to Nearest Receptor (m) | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Ampere Hours/yr (x10⁶) | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.92 | 2.05 |
| Annual Emissions (lbs/yr) | 0.039 | 0.039 | 0.039 | 0.039 | 0.039 | 0.039 | 0.042 | 0.044 |
| Distance to Nearest Receptor (m) | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| Ampere Hours/yr (x10⁶) | 2.20 | 2.38 | 2.58 | 2.74 | 2.92 | 3.12 | 3.35 | 3.62 |
| Annual Emissions (lbs/yr) | 0.048 | 0.051 | 0.056 | 0.059 | 0.063 | 0.068 | 0.073 | 0.078 |

Table 7-4
Decorative Chromium Electroplating and Chromic Acid Anodizing
Operations Without Air Pollution Control

| Distance to Nearest Receptor (m) | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Ampere Hours/yr (x10⁶) | 1.15 | 1.31 | 1.52 | 1.80 | 2.22 | 2.89 | 3.19 | 3.56 |
| Annual Emissions (lbs/yr) | 0.025 | 0.028 | 0.033 | 0.039 | 0.048 | 0.063 | 0.069 | 0.077 |
| Distance to Nearest Receptor (m) | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| Ampere Hours/yr (x10⁶) | 4.03 | 4.64 | 5.47 | 5.92 | 6.46 | 7.10 | 7.88 | 8.87 |
| Annual Emissions (lbs/yr) | 0.088 | 0.101 | 0.119 | 0.129 | 0.140 | 0.154 | 0.171 | 0.193 |

**Appendix 78 – Information Demonstrating an Alternative Method(s) of
Compliance Pursuant to ~~Paragraph (d)(6)~~. Subdivision (i)**

The owner or operator of a facility applying for approval of an alternative method of compliance must submit to the ~~District~~ Executive Officer the following information.

1. A ~~performance-source~~ test as specified in subdivision (e) ~~i~~ that is submitted after receipt of the SCAQMD Permit to Construct. The test shall have been conducted in a manner consistent with normal electroplating or anodizing operations.
2. A demonstration that the alternative method achieves an equal or greater amount of reductions in hexavalent chromium emissions than would be achieved with direct compliance with the applicable emission rate in paragraphs (e)(11)(A), (e)(12)(A)(ii), or (e)(13)(A)(iv)(h)(2) or (h)(4).
3. Calculations based on scientifically valid risk assessment methodologies demonstrating that the alternative method results in reducing risk equally or greater than the risk reduction that would be achieved by direct compliance with the applicable emission rate ~~in Table 2 of subparagraph (e)(11)(A), (e)(12)(A)(ii), or (e)(13)(A)(iv)~~. A facility using in-tank controls shall only be modeled as a volume source and the resulting risk compared to the same facility modeled as a point source.
4. Documentation which demonstrates that the method is enforceable, including an operation and maintenance plan, an inspection and maintenance schedule, and a recordkeeping plan.
5. A demonstration that the facility is at least 25 meters from a sensitive receptor.

Appendix 89 – Smoke Test to Demonstrate Capture Efficiency for ~~Ventilation Systems of an~~ Add-on Air Pollution Control Device(s) Pursuant to Paragraph (ek)(76).

1. Applicability and Principle
 - 1.1 Applicability. This method is applicable to all hard and decorative chromium electroplating and chromic acid anodizing operations where an add-on air pollution control device is used to reduce chromium emissions from the chromium electroplating or anodizing tank.
 - 1.2 Principle. During chromium electroplating or anodizing operations, bubbles of hydrogen and oxygen gas generated during the process rise to the surface of the tank liquid and burst. Upon bursting, tiny droplets of chromic acid (chromium mist) become entrained in the air above the tank. Collection of this chromium mist is achieved ~~by the ventilation system associated with the add-on air pollution control device for the tank(s) where chromium emissions are reduced downstream.~~ Emission control efficiency at the exhaust of an add-on control device is related to capture efficiency at the inlet of the ~~ventilation system~~add-on air pollution control device. For this reason, it is imperative that 100% capture efficiency is maintained. A smoke device placed within the area where collection of chromic mist by the ~~ventilation system~~add-on air pollution control device occurs reveals this capture efficiency.
2. Apparatus
 - 2.1 Smoke Generator. Adequate to produce a persistent stream of visible smoke ~~(e.g., Model #15-049 Tel-Tru™ T-T Smoke Sticks from E. Vernon Hill, Incorporated).~~
3. Testing Conditions

The smoke test shall be conducted while the add-on air pollution control device is in normal operation and under typical draft conditions representative of the facility's chromium electroplating and/or chromic acid anodizing operations. This includes cooling fans and openings affecting draft conditions around the tank area including, but not limited to, vents, windows, doorways, bay doors, and roll-ups. The smoke generator must be at full generation during the entire test and operated according to manufacturer's suggested use.
3. Procedure

The smoke test shall be conducted over a minimum twelve point matrix evenly distributed over the entire liquid surface of each chromium electroplating or chromic acid anodizing tank vented to the add-on air pollution control device. Place the aperture of the smoke device at each point of the matrix at a height within one inch

above the tank top. Observe collection of the smoke to the collection location(s) of the ~~ventilation system~~add-on air pollution control device. An acceptable smoke test shall demonstrate a direct stream to the collection location(s) of the ~~ventilation system~~add-on air pollution control device without meanderings out of this direct path. Record these observations at each of the points on the matrix providing a qualitative assessment of the collection of smoke to the ~~ventilation system~~add-on air pollution control device. The test shall also be documented by photographs or video at each point of the matrix.

Appendix 910 – Surface Tension Measurement Procedure for a Stalagmometer

The stalagmometer shall first be properly cleaned before being used for the first time and after a period of storage. Properly clean the stalagmometer using the following procedure:

1. Set up stalagmometer in stand in a fume hood.
2. Place a clean 150 mL beaker underneath the stalagmometer then fill with reagent grade concentrated nitric acid. Immerse bottom tip (approximately $\frac{1}{2}$ ") of stalagmometer into the beaker.
3. Squeeze rubber bulb and pinch at the arrow up (1) position to collapse. Place bulb end securely on top end of stalagmometer. Carefully draw the nitric acid by pinching the arrow up (1) position until the level is above the top etched line.
4. Allow nitric acid to remain in stalagmometer for 5 minutes and then carefully remove the bulb allowing the acid to completely drain.
5. Fill a clean 150 mL beaker with distilled or deionized water. Using the rubber bulb per the instructions in Step #3, rinse and drain stalagmometer with deionized or distilled water until the inside is "water break" free.
6. Fill a clean 150 mL beaker with isopropyl alcohol. Again using the rubber bulb per Step #3, rinse and drain stalagmometer twice with isopropyl alcohol and allow the stalagmometer to dry completely.
7. Take a sample of the solution to be tested and adjust the solution to room temperature. Measure the specific gravity and record reading.
8. Fill a clean 150 mL beaker with solution to be tested. Immerse bottom end of stalagmometer into the beaker. Fill the stalagmometer per instructions in Step #3, making sure that the solution level is above the top etched line.
9. Raise the stalagmometer so that the bottom end is completely out of solution. Remove bulb and immediately place a finger on the top end of the stalagmometer. Carefully use the finger to bring the solution level down to the top etched line. Do not release finger at this time.
10. "Wipe" the excess solution on the lower tip by touching it against the side of the beaker.
11. Release fingertip to allow solution to drain and count number of drops until the level reaches the bottom etched line.

Calculations for Surface Tension

$$\text{Surface tension (dynes/cm)} = \frac{S_w * N_w * D}{N * D_w}$$

S_w = Surface tension of water at 25°C or 77°F (72.75 dynes/cm)

N_w = water drop number etched on instrument

D = measured specific gravity (g/ml)

N = # of solution drops

D_w = water density (1.0 g/mL)

PRECAUTIONS:

1. Make sure the stalagmometer is clean (no sludge or film)
2. No chips, cracks, etc
3. Vertical placement
4. No vibration
5. 20 drops per minute rate (10 dynes/cm) +/- 1 drop per minute
6. Performance checked with water. The number of drops etched on the instrument shall be verified with deionized water to +/- 1 drop. If the number of drops are not within 1 drop, then the stalagmometer shall be cleaned. If the cleaning process does not bring the drop count within 1 drop of the etched number on the instrument, then the operator shall:
 - a) Purchase a new stalagmometer; or
 - b) Use the number of drops recorded for the distilled water run as (N_w) in the equation instead of the number of drops etched on the stalagmometer.
7. Sample at room temperature.

Appendix 10 – Tier II and Tier III Hexavalent Chromium Tank Thresholds

Tier II Tank hexavalent chromium concentrations shall remain in the concentration range for the specified temperature and be required to comply with subparagraph (h)(4)(B). Tanks that exceed hexavalent chromium concentration for a corresponding temperature shall be considered a Tier III Tank and shall be required to comply with subparagraph (h)(4)(A).

| <u>Temperature (° F)</u> | <u>Tier II Tank Concentration (ppm)</u> | <u>Tier III Tank Concentration (ppm)</u> |
|---------------------------------|--|---|
| <u>140 to <145° F</u> | <u>5,200 to <10,400</u> | <u>≥10,400</u> |
| <u>145 to <150° F</u> | <u>2,700 to <5,500</u> | <u>≥5,500</u> |
| <u>150 to <155° F</u> | <u>1,400 to <2,900</u> | <u>≥2,900</u> |
| <u>155 to <160° F</u> | <u>700 to <1,600</u> | <u>≥1,600</u> |
| <u>160 to <165° F</u> | <u>400 to <800</u> | <u>≥800</u> |
| <u>165 to <170° F</u> | <u>180 to <400</u> | <u>≥400</u> |
| <u>≥170° F</u> | <u>≥100 to <200</u> | <u>≥200</u> |

Electrolytic tanks, such as chromic acid anodizing or electroplating tanks, with hexavalent chromium concentration greater than 1,000 ppm shall be considered a Tier III tank regardless of operating temperature.

Air sparged tanks with a hexavalent chromium concentration greater than 1,000 ppm shall be considered a Tier III tank regardless of operating temperature.